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REPORT

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ARTS AND MANUFACTURES,
IN THREE VOLUMES.

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1859.

IN THE HOUSE OF REPRESENTATIVES,

March 2, 1859.

Resolved, That there be printed of the Mechanical part of the Patent Office Report five thousand copies for the use of the Patent Office, and fifteen thousand for the use of the members of the House of Representatives.

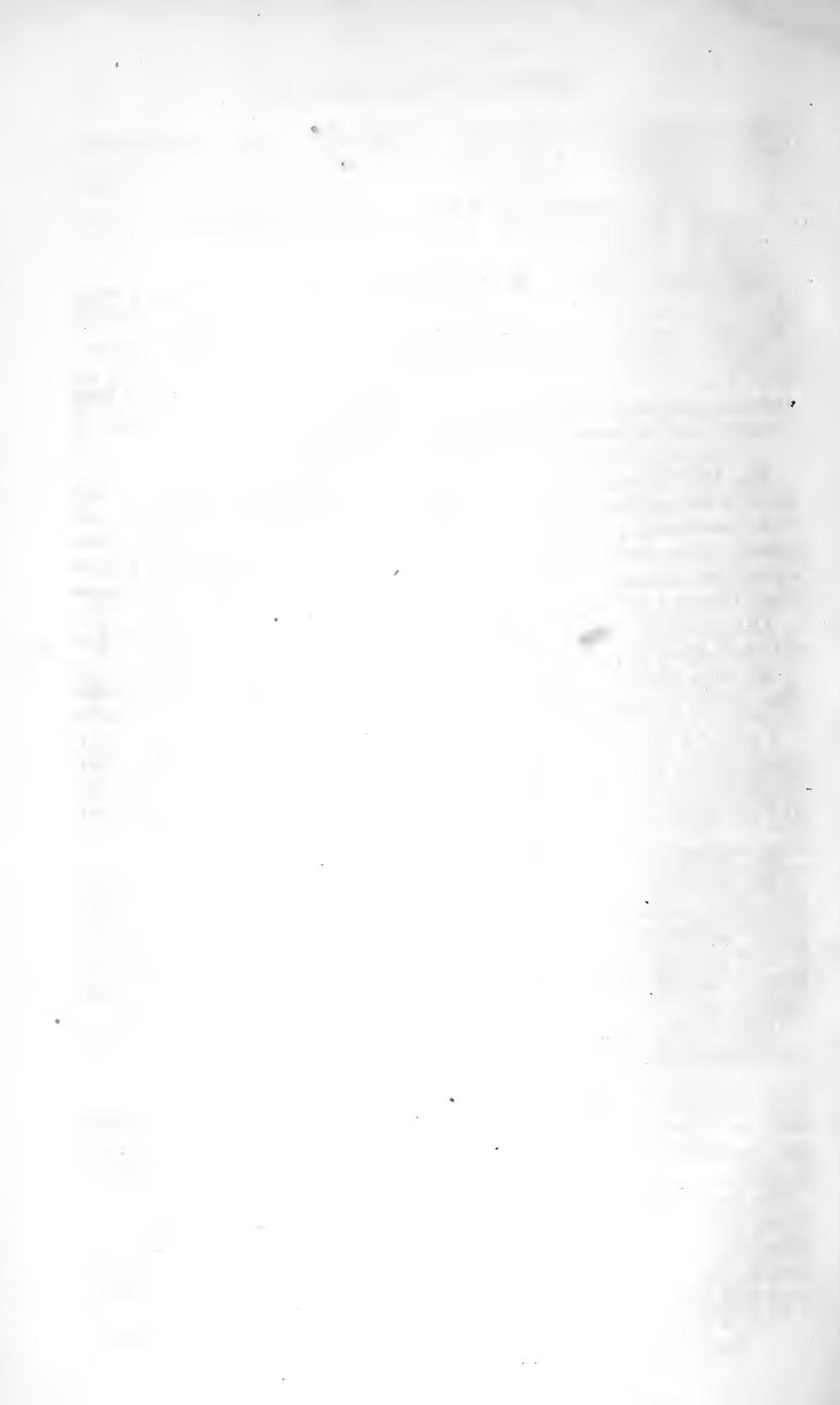
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J. C. ALLEN, *Clerk*.

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VI.—STEAM AND GAS ENGINES.

No. 19,601.—JOSEPH WOOD and H. N. WINANS, of Jersey City, N. J.—*Improvement in Steam Boilers*.—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The interposition of the diaphragm reflector A between the flues and the exhaust for the purpose of protecting the exhaust from the draught, and for reflecting the heat back to the head; the whole constructed and arranged substantially as described.

No. 19,621.—ABNER CLARK, of Fort Des Moines, Iowa.—*Improvement in Steam Boilers*.—Patent dated March 16, 1858.—This invention consists in a certain arrangement of tubular water and steam spaces, water walls and connexions in a steam boiler, to obtain a very extensive heating surface and economize the fuel, and at the same time insure a perfect circulation of the water.

The inventor says: I do not claim broadly the employment of a series of pipes for heating the water and collecting the steam.

Nor do I claim broadly the heating of the feed water by the escaping products of combustion; but the special arrangement of parts shown and described I believe to be new.

I *claim* a steam boiler having its walls A B, tubular water and steam spaces C C D D, the cylindrical steam chamber I, tubes E H, connecting elbows F G, and feed water pipes and boxes; all arranged and combined as shown and described, for the purposes specified.

No. 19,669.—HENRY WINFIELD, of New York, N. Y.—*Improvement in Steam Boilers*.—Patent dated March 16, 1858.—The nature of this invention consists in forming a steam boiler with the fire box B, with one or more longitudinal tubes or flues E, longitudinal tubes or flues F, and vertical tubes or flues G, all connected together and to the sides, ends, and bottom of the shell A of the boiler, as shown in the engravings.

Claim.—The arrangement of the longitudinal, latitudinal, or transverse, and vertical fire tubes or flues, as set forth.

No. 20,167.—JAMES MONTGOMERY, of Brooklyn, N. Y.—*Improvement in Steam Boilers*.—Patent dated May 4, 1858.—The nature of this invention will be understood by reference to the claim and engraving.

The inventor says: I do not claim vertical tubes in boilers connected with water spaces above and below, except under an arrangement like that set forth, viz: Where the lower water space is immediately over the fire and the draught of the furnace returns over said space and among the tubes, as set forth.

That is to say, I *claim* the arrangement of the series of tubes placed

vertically or nearly so between an upper and a lower and connecting vertical water spaces, when said lower water space is made directly over the fire chamber and the draught is returned over said lower space and among the vertical tubes, as set forth.

Second. And I also claim the arrangement of the shield plate, in combination with and interposed between the crown sheet of the furnace and the lower ends of the series of water tubes, substantially as and for the purpose specified.

No. 20,319.—GEORGE W. BARNETT, of Springfield, Ohio.—*Improvement in Steam Boilers*.—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

Claim.—In combination with a furnace arranged centrally within the boiler A, the smoke flues G, and exhaust pipes, when so arranged that the smoke and waste heat of the furnace, as also the exhaust steam, shall be conducted together downward through the water in the boiler in the same pipes, for the purposes set forth.

No. 20,802.—ALONZO R. KETCHUM, of Buffalo, N. Y.—*Improvement in Steam Boilers*.—Patent dated July 6, 1858.—The nature of this invention relates to the construction of one common fire and combustion chamber centrally within the boiler, and the relative arrangement of the several furnaces and registers in reference thereto, into which fire chamber the flames, smoke, and gas, from the several furnaces are discharged for the purpose of intensifying and retaining the heat therein, and consuming the gas and smoke therein.

Claim.—The construction and arrangement of the interior fire chamber C, relatively to the furnaces A A, &c., and the registers B B, &c., for the purposes substantially as set forth.

No. 21,017.—ORRIN NEWTON, of Pittsburg, Pa.—*Improvement in Steam Boilers*.—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that superheated steam has often been used; but as I do not design by my invention to superheat steam, nor to make any chemical change whatever in the steam itself, but merely to fit it for exerting its full power when it reaches the cylinder of the steam engine by previously subjecting it after it leaves the prime generator to a sufficient degree of heat to expand the steam, and convert into steam any water or watery vapor which has passed with it from the prime generator, anhydrating and expanding without superheating it. I therefore do not claim the use of superheated steam, nor any apparatus for superheating it.

But I *claim* the mode described, or its equivalent, producing a more perfect calorification and expansion of the steam after it leaves the prime steam generator, and before it enters the cylinders of the steam engine, by means of two or more steam chambers *h h*, constructed as described, separate from the boiler *a*, and heated by hot air from the furnace; the steam thus anhydrated passing to the cylinder of the engine from one of these separate chambers, while the steam in the

other chamber is being prepared for the next stroke of the engine, substantially in the manner and for the purposes set forth.

No. 22,303.—CHARLES J. C. PETERSEN, of Davenport, Iowa.—*Improvement in Steam Boilers*.—Patent dated December 14, 1858.—This invention consists in conducting the heat from the fire through a space under that part of the boiler which contains the heating tubes before it enters them, said space being surrounded by water, and being so constructed that the ashes and cinders are deposited in the same at its end furthest from the fire, where they can be drawn off by a suitable opening. And it further consists in a peculiar construction of the fire grate and of the ash box.

Claim.—Arranging the feed pipe *q* in such a manner under the fire box that the same, in combination with plates *r* placed between the bends of the feed pipe, constitutes the bottom of the ash box, so that the feed water running through the pipe *q* is heated by the ashes, said plates *r* being so arranged that they can be raised, and actuated by cranks *t* and levers *s*¹, so as to leave room for the ashes to escape; the whole being arranged and constructed substantially as described.

No. 22,334.—ISAAC C. STERN, of Philadelphia, Pennsylvania, assignor to Himself and GEORGE W. STONE, of said Philadelphia.—*Improvement in Steam Boilers*.—Patent dated December 14, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The application to locomotive boilers of the arrangement of tubes described—that is to say, the arrangement of the coil *b*, or its equivalent, on the inside and on one side of the fire box, and the coil *b*¹, or its equivalent, on the opposite side when one coil communicates with one pump and the opposite coil with the other pump of the engine, and when the opposite coils are connected together by the pipe *d*, so that the cold water direct from the pumps may pass into the coils, and thence, in a heated state, into the boiler, and so that the water may at all times circulate through both coils, as set forth.

No. 19,493.—JOHN N. DENNISON and THOMAS SEALY, of Newark, New Jersey.—*Improved Apparatus for Supplying Water to Boilers*.—Patent dated March 2, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventors say: We *claim* the combination of two chambers with each other and with a steam boiler by means of pipes, stop-cocks, and valves, constructed and operating substantially as set forth, in such manner that the two chambers act alternately and interchangeably as receiving and distributing reservoirs, to receive feed water to heat it by the discharge of steam from the one vessel to the other and to feed it to the boiler.

We also claim the combination of the said apparatus with a steam-heating apparatus situated lower than the boiler, so that the condensed water is raised and returned to the boiler, substantially as set forth.

No. 21,040.—JOSEPH WHITMORE, of Lowell, Massachusetts.—*Alarm Gauge for Steam Boilers*.—Patent dated July 27, 1858.—To insure the rise of the valve E to its seat, a rod L¹ is fastened to the top thereof, which, passing out of the top of the whistle, is attached to a spring S which draws the valve E to its seat as soon as the contraction of the spring allows it to rise. The thumb nut N on the end of this rod secures the spring in place, and also serves as a means by which the rod L more or less into the bottom of the brass piece M, thereby making the action of the spring K K¹ on the valve E adjustable.

Claim.—The combination of the steam whistle W, valve E, rod L, spring K K¹, and its connexions, and box D, when used in connexion with a steam boiler for the purposes and substantially as set forth.

No. 21,003.—ZALMON L. JACOBS, of Hebron, Conn.—*Apparatus for Regulating the Supply of Water to Steam Boilers*.—Patent dated July 27, 1858.—This invention consists in constructing and arranging an apparatus whereby the flow of fluid from a reservoir B to a vessel A below it is automatically adjusted to the varying requirements of the latter vessel.

The inventor says: I *claim*, first, the combination of a chamber C, having alternate communication with a reservoir to receive a fluid, and a boiler or other vessel in which to deliver it, causing the fluid, when it rises to the desired height in the latter vessel, to check the passage of air and other æriform bodies to the aforesaid chamber, and thereby to regulate automatically the flow of fluid from said chamber, substantially in the manner set forth.

Second. I claim the movable pipe L, or its equivalent, in combination with the vessel A, for the purpose of changing the line at which the fluid is to be sustained in the boiler or vessel A, as described.

Third. I claim the ring D and the plug O, when constructed, combined, and operated in the manner and for the purpose described.

No. 20,477.—GEORGE BRODIE, of Little Rock, Ark.—*Improvement in Apparatus for Supplying Water to Steam Boilers*.—Patent dated June 8, 1858.—The object of this invention is to gradually supply steam boilers with water equal at all times to the amount evaporated and used, so that the water within the boiler will be constantly kept at a given height.

Claim.—The arrangement and combination, as shown and described, of the cylinder A, cylinders B B, pistons D D E E, and cisterns C C, for the purposes set forth.

No. 22,271.—JANE H. LLOYD, of Philadelphia, Pa., executrix of RICHARD L. LLOYD, deceased, late of said Philadelphia, assignor to GEORGE T. PARRY, of said Philadelphia.—*Device for Preventing Explosions in Steam Boilers*.—Patent dated December 7, 1858.—This invention consists in placing within a steam boiler a metallic conductor made to communicate with the outside, for the purpose of maintaining an electrical equilibrium between the inside of the boiler and the outside thereof, and thus preventing the explosion of the boiler when the water becomes low and the plates unduly heated.

Claim.—As the invention of the said Richard L. Lloyd, placing within a steam boiler or a metallic conductor, arranged to communicate with the outside of the said boiler substantially in the manner set forth, in order to maintain an electrical equilibrium between the inside of the boiler and outside thereof, or with any matter surrounding or in connexion therewith, for the purpose specified.

No. 20,380.—LEONARD THORN, of New York, N. Y.—*Feed Regulator for Steam Boilers.*—Patent dated May 25, 1858—The nature and object of this invention will be understood by examining the claim and engravings.

The inventor says: I do not claim to have invented the combination of a cock and float to regulate the supply of water to a boiler.

But I *claim* making the stem or arm of a hollow float G, which is applied to the cock in the manner described, with a passage through it, connecting with a passage leading through one end of the plug B of the cock, and thereby forming a communication from the interior of the float to the atmosphere, for the purpose set forth.

No. 22,284.—JACOB FRICK, of Philadelphia, Pa.—*Improvement in Feed-Water and Blow-Off Apparatus for Steam Boilers.*—Patent dated December 14, 1858.—This invention relates to an improvement in the feed and blow-off apparatus patented March, 1856, and consists in combining with this apparatus an air vessel with cocks and branches, affording a means of throwing a jet of water to any part of a building, so that the instrument, in addition to the advantages described in the abovementioned patent, becomes available for extinguishing fires as well as for supplying water to different apartments for manufacturing and other purposes.

Claim.—Combining an air vessel, having cocks and branches arranged substantially as herein described, with the feed and blow-off apparatus, for which letters patent of the United States were granted to me on March 18, 1856, in the manner and for the purpose specified.

No. 22,169.—F. P. DIMPFL, of Philadelphia, Pa.—*Improvement in Furnaces for Steam Boilers.*—Patented in England May 24, 1856.—This invention consists in passing in atmospheric air through openings through the water spaces, and in distributing air through guarded openings, so that the streams of air may be deflected, heated, and diffused over a larger surface of heated products of combustion; also that the passages for the air shall not be clogged.

The inventor says: I *claim* the passages through the water spaces entering the combustion chamber or extension of the furnace, as described.

I also claim the means, substantially as described, for providing for the perfect consumption of the finer particles of fuel and products of combustion, as set forth.

No. 20,840.—HENRY YATES, of Brantford, Canada.—*Improvement in Furnaces of Steam Boilers.*—Patent dated July 6, 1858.—This invention has for its object to economize fuel and prevent the falling of

coals and brands upon the woodwork, either of the bridges or the permanent roadway, and also to increase the water space heating surface of the furnace.

The inventor says: I *claim* the perforated metal cone H, in combination with the tight furnace bottom, operating in the manner substantially as set forth.

2d. And in combination with the above, I claim the damper V, operating in the manner substantially as set forth.

3d. I also claim the water heater I I¹, in combination with the perforated metallic cone and damper, constructed and arranged in the manner specified.

No. 21,013.—JAMES MONTGOMERY, of Brooklyn, N. Y.—*Improvement in Grates for Steam Boilers*.—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that boilers have been constructed in the manner of two horizontal tubular boilers placed back to back with one smoke-box common to both, and with the grates of the two connected so as to appear as one grate for the two series of flue tubes, and with a door at each end; but this mode of construction does not present the mode of operation which I have invented and claim as my invention, for each half of the grate belongs to and acts in connexion with its appropriate set of flue tubes as in two separate boilers, and the products of combustion from the coals on one end of the grate cannot be made to pass over the other end of the grate.

I *claim* combining with a boiler formed with a series of vertical water tubes, and the flue space *i* among the said tubes communicating with the fire chamber at one end only, substantially as described, a grate made the whole or nearly the whole length of the boiler, and with the fire door at each end, substantially as and for the purpose specified.

No. 19,568.—WILLIAM KEMBLE HALL, of West Hoboken, New Jersey.—*Safety Apparatus for Steam Boilers*.—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that Cadwallader Evans, in April 1839, invented an arrangement by which the melting of a plug allowed the steam to escape, and caused a weight to fall and open a cock, by which water from a reservoir might extinguish the fire; that John P. Bakewell, in December, 1839, patented an apparatus by which the steam only was blown from the boiler on the melting of a plug; and that, in May, 1855, A. M. Glover proposed an apparatus by which an over pressure of steam, when the boiler had a full supply of water, would force some of the water into the furnace, and when the water became low, in such a case, would permit the escape of steam, thus occasioning, in various ways, the premature escape of steam, which my apparatus is designed to prevent, and which, in many instances, seems to have been the final link in the chain of circumstances leading to the apprehended disaster.

But I *claim* the combination of a valve, fusible metal, and intervening elastic substance, and a pipe leading from the lower part of

the boiler, as described, by which the water may first be discharged from a boiler when dangerously overheated, and employed, if desired, to extinguish the fire.

No. 21,991.—FRANCIS STEBBINS, of Hinsdale, New Hampshire.—*Safety Apparatus for Steam Boilers*.—Patent dated November 2, 1858. A is a steam boiler, carrying a standard B for supporting the shaft or fulcrum of a tilting lever C. On one arm of said lever a hollow globe or vessel D is fixed, while the opposite arm C of the lever carries a ball E of greater weight than the vessel D, or of such weight as to be capable of depressing that arm of the lever to which it is attached, and elevating the other arm and the vessel D, whenever the latter is empty of water.

The shaft *a* of the lever should be tubular, and have two pipes *f g* leading out of it, one being led into the upper part while the other is led into the lower part of the vessel D.

The inventor says: I am aware that it is not new to so combine a vessel with a boiler and an alarm or signal apparatus that such vessel, when the water in the boiler may be above its lowest safe water level, shall be kept filled with water by the pressure of the steam, and when such water may fall below such level of safety such vessel, by the entrance of steam into it, shall be emptied of its water, and thereby, by the abstraction of the weight of water from such vessel, the alarm or signal apparatus shall be put in operation; and therefore I do not claim such. Although I maintain this principle of operation in carrying out my invention, I effect an important and valuable improvement, as my invention rests on an improved mode or means of carrying out such principle, and consists in an arrangement of pipes, with respect to the vessel and boiler, whereby the steam and water passages are entirely separate from one another, so that the water does not hinder or obstruct the passage of the steam from the boiler to the vessel D, one not having to rush directly by and in contact with the other while the steam may be flowing into the vessel D of the safety apparatus. Furthermore, my arrangement presents other advantages, as, by means of it, the safety apparatus is entirely out of the boiler, and is not liable to be injuriously affected by the foaming of the water in the boiler.

I *claim* the improved safety apparatus as specified, or the above described arrangement of the two separate steam pipes *f h*, the two separate water pipes *g i*, and tubular shaft *a*, together and with respect to the boiler A, the vessel D, and its loaded level C, and so as to enable the whole to operate substantially in manner as explained.

No. 22,178.—HIRAM H. HAVENS, of New York, N. Y.—*Improved Sediment-Collector for Steam Boilers*.—Patent dated November 30, 1858.—This invention is intended for collecting the sediment at or near the surface of the water in a vessel that contains water in a comparatively quiescent state.

Claim.—The vessel *a*, fitted with a blow-off pipe, in combination with the rings *ee*, or their equivalents, presenting alternate horizontal

edges and openings from the lowest water guage or level, for the purposes as specified.

No. 20,398.—THOMAS P. AKERS, of Lexington, Missouri.—*Telephonic Indicator for Steam Boilers*.—Patent dated June 1, 1858.—With this invention the fall of the water in steam boilers to a dangerous point will always be made known to the engineer, as the very falling of the water insures the opening of a safety-valve and the escape and contact of steam with an alarm whistle. The same arrangement also enables the engineer to convey, by telephonic signals, the fact that all is ready for starting, or any other facts which are necessary to avoid mistakes and accidents. It likewise affords facilities for examining the working condition of the alarm, and thus avoids any danger from the same not being in proper working condition.

The inventor says: I *claim*, first, giving the peculiar specified form to the bracket B on which the float C C' is suspended, for the purposes set forth.

Second. The precise manner specified of connecting the valve D with the float stem C' by means of a lower extension screw-tapped stem *f*, oblong slot *g*, and adjustable screw nut *h*, for the purposes set forth.

Third. Having the upper extension or stem *f* of the valve extend up nearly through the alarm whistle standard E, in combination with the providing of a set or valve-opening screw F in the upper end of said standard E, and a valve-closing spring G on the lower extension or stem *f* of the valve, substantially as and for the purposes set forth.

No. 21,686.—LEVI E. LINCOLN, of Lowell, Massachusetts.—*Improved Water Alarm for Steam Boilers*.—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the application of an alarm whistle exclusively to the water space of a steam boiler to obtain controlling motive power, in conjunction with an application exclusively to the steam space of said boiler to obtain warning or acoustic power.

Second. The application of a self-adjusting valve to the stem of a steam whistle in manner such that a current may be intercepted thereby.

Third. The application to a whistle of a metallic tube or pipe in such manner that, unexpanded, it shall be pendant from the whistle, and that by expansion and contraction it shall have the office to effect the operation of the whistle.

Fourth. The application of a set screw, or mechanical equivalent, to an expansive tube in such manner that the effective expansion and contraction of said tube may be prescribed thereby.

Fifth. The application of a whistle to its support, standard, or framework, in such manner that the whistle shall be suspended from said framework by that portion of itself which extends upward from its bell.

Sixth. The holding of a valve-seat in position for its valve, by pendulous attachment, by suspension.

Seventh. The operating of a valve-seat upon its valve by the expansion and contraction of a metallic tube, or by the expansion and contraction of any mechanical equivalent thereof; all substantially as described and set forth in the specification and drawing.

No. 21,836.—JOSEPH JOHNSON and RUFUS LAPHAM, of New York, N. Y.—*Improvement in Water Gauges for Steam Boilers*.—Patent dated October 19, 1858.—This invention consists in forming the bore at each end of the glass tube slightly conical or flaring outward, in combination with an elastic conical plug at each end fitted thereto; also in holding the glass tube in place by means of an adjustable plug fitted by a cylindrical stem to a cylindrical hole in the bracket piece which forms the attachment to the gauge of the boiler, whether the said plug be fitted with a conical elastic sleeve or any other mode of packing, so long as the said plug is so adjustable and formed with the required passage for connecting the tube with the inside of the boiler.

Claim.—The hollow plugs h and h with conical stem fitting into the glass tube, and the elongated hole or passage h^2 , in combination with the screw k , for adjusting the plugs, operating as described and for the purposes set forth.

No. 20,927.—HORATIO ALLEN, of New York, N. Y.—*Improvement in Tube-Joints for Condensers*.—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that, in lines of pipes for conveying water, short pipes of wood, banded at the ends with iron, have been used to connect the iron pipes, the iron pipe being driven into the wooden pipe, or the wooden pipe into the iron pipe.

But this combination is not one for making an imperfect joint tight, but is a combination of wooden and iron pipes, the joints of which shall not form the material used being imperfect.

And I do not claim such combination of wooden and metal pipes as embraced within my device.

I claim making the joint formed by two metal surfaces (as in the joints of the tubes in the tube sheets of surface condensers and other similar instruments) tight, by inserting between the tube and tube sheet a tube H of seasoned or compressed wood, made either in one or several pieces, relying on the expansion of the wood after being saturated by water to make the joint tight, and on the freedom of the metal tube to move endwise without affecting the tightness of the joint, to avoid injurious results from the expansion and contraction of the metal tube; all substantially in the manner and for the purposes set forth.

No. 20,172.—JOHN C. FR. SALOMON, of Baltimore, Maryland.—*Improved Arrangement of Gas Engines*.—Patent dated May 4, 1858.—The object of this invention is to maintain a uniform pressure of vapor and effect a regular and steady working of the engine, which is accomplished by diffusing, by means of a heating medium enclosed within a tight chamber, an equal heat over the whole surfaces through which the gaseous vapors have to circulate in order to exert their force upon the piston.

The inventor says: I *claim*, first, arranging all the parts necessarily employed in generating and working gaseous vapor within a tight chamber which is supplied with oil, hot air, or other suitable heating medium, substantially as and for the purposes set forth.

Second. The employment, in combination with the above named tight chamber, of the combined arrangement of fire-flues, smoke-stack, circulating coil, boilers, vapor chest, and cylinder, for accomplishing the objects above specified, substantially as set forth.

No. 20,613.—GEORGE AMBROSE, of New York, N. Y.—*Improved Reciprocating Rotary Engine*.—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the arrangement and combination in a rotary engine in the manner specified of the following peculiar features, to wit: First. A stationary axle A, furnished with two ports C C¹, one answering as the supply and the other as the exhaust to a series of cylinders; said ports being separated by a transverse S-shaped partition 1, so that the steam shall be received at one end of the axle and exhausted through the other.

Second. A series of revolving cylinders D D D D D¹, with pistons whose rods have friction rollers 4 4 on their outer ends.

Third. An annular grooved eccentric rim F, which has an inner and outer bearing for said friction rollers of the piston rods.

Fourth. Two cut-off slides 7 7¹; one arranged at the supply and the other at the exhaust port of the hollow axle and intermediate between the revolving hub D¹, of the steam cylinders and said stationary hollow axle, for the purpose of regulating the admission of steam to and the escape of the same from the cylinders, as may be desirable or necessary. All of the above parts being for united use and the purposes set forth.

No. 19,100.—LEWIS PETER, of Gnadenhutten, Ohio.—*Improvement in Rotary Steam Engines*.—Patent dated January 12, 1858.—In figure 1 the engine is represented as turning towards the left hand; to reverse the motion it is necessary to change the position of steam valve 2 and lever L. The force or power of the engine is gained by the steam acting against the abutment J and the sliding heads T.

Claim.—The movable inches N and springs, or their equivalents, to operate upon the sliding pistons of the engine, as described, and for the purpose set forth.

No. 19,247.—LEVI T. GOBEN, of Spring Hill, Missouri.—*Improvement in Rotary Steam Engines*.—Patent dated February 2, 1858.—This invention has reference to the ingress and egress of steam, and to the point of resistance of the steam: A main shaft, B cylinder, and C solid cylinder. It is secured to the shaft A, and by its movement rotates the shaft.

Claim.—The double-branched sliding abutment D, roller F, flanged wheel E¹, stud *t*, arm *l*, and oscillating valve stem P, constructed, arranged, and operating relative to each other, substantially as specified.

No. 19,537.—ALFRED ARNOLD, of New York, N. Y.—*Improvements in Rotary Steam Engines*.—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the bevelled periphery of the wheel A, whereby the steam expends its force on the faces of the notches while being divided and passed away from the resisting surface of the wheel.

Second. The steam chest D, with its several perforations, as described.

Third. The combination of the valve F and steam chest D with the wheel of a percussion engine, whereby the power of the engine may be decreased without decreasing the velocity and density of the steam applied, substantially as described and for the purpose specified.

No. 19,697.—JAMES B. GROOMES, of Carmichael's, Pennsylvania.—*Improvement in Rotary Engines*.—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I make no claim to the radial piston attached to the shaft, as equivalent devices are well known. Neither do I claim the introduction and exit of the steam through the shaft.

But I *claim* the flanged cylinders *a a*, encasing the shaft at its transverse perforations *i c*, and packed, as described, between the flanges and the cylinder heads, in combination with the steam channels *e* and *d* of the shaft, and the induction and eduction pipes D and E, communicating with the annular spaces between the flanges of the cylinders, the whole operating as set forth.

No. 19,967.—LEVI MATTHEWS, of Antrim, Ohio, assignor to Himself and J. K. ANDREWS, of said Antrim.—*Improvement in Rotary Steam Engines*.—Patent dated April 13, 1858.—This improvement has reference to that class of rotary engines in which the steam is confined in a close and rigid chamber, and acts on a solid and inflexible surface, and makes its escape by confined passages, so that its full effect may be obtained in useful work.

The inventor says: While not claiming as new, or broadly, a hinged connexion of the piston with the revolving or driving ring, by jointed attachment or attachments—

I do *claim*, as both new and useful, hinging the circular piston B at its centre to the outside driving ring D, by means of a rigid arm or piece *r* projecting from said ring into the annular steam channel of the cylinder, as and for the purpose set forth.

No. 21,494.—JOHN HARTHAN and EZRA HARTHAN, of Timbersbrook, England.—*Improved Rotary Steam Engine*.—Patent dated September 14, 1858.—This invention relates to a system or mode of obtaining motive power by the aid of a rotary engine of a peculiar construction, which may be worked either by steam or compressed air, whereby the direct pressure, in conjunction with the reactive force of the propelling medium, is made available.

The inventors say: We are aware that rotatory engines, consisting of wheels having a number of projections formed or fitted upon their

peripheries, and actuated by the impingement of steam or air against such peripheral projections or chambers, have long been known in this country, and therefore we lay no claim to the principle of such arrangement. We may also observe that we do not confine or restrict ourselves to the precise details or arrangements which we have had occasion to describe or refer to, as variations may be made therefrom without deviating from the principles or main features of our said invention.

But we *claim*, first, the system or mode of obtaining motive power by causing steam or air to impinge upon a series of chambers with curved bottoms arranged around a wheel at or near the periphery thereof, as described.

Second. The general constructions and arrangements of machinery or apparatus for obtaining motive power, as described.

No. 20,136.—DANIEL BARNUM, of Jersey City, New Jersey.—*Improvement in Steam Engines*.—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—I claim combining with an air pump of a marine engine an independent or separate suction pipe connecting the hold of the vessel with the air pump directly, and not through the channel way or condenser, such pipe being connected, and the combination being substantially such as is set forth.

No. 20,782.—JOHN ERICSSON, of New York, N. Y.—*Improvement in Steam Engines*.—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement of the two cylinders *a b* in such manner that their base or bottom ranges with a plane which passes through the axis of the propeller shaft, or nearly so, in combination with a system of rock shafts *e f*, crank levers, and connecting rods, so proportioned, applied, and arranged, that the use of a driving crank *l* on the propeller shaft, of greater length than half the stroke of the piston, is permitted, and that the connecting rods will operate nearly at right angles to each other, and will be in line with each other at the termination of each stroke of either piston, substantially as set forth.

No. 21,059.—HENRY BLANDY and FREDERICK J. L. BLANDY, of Zanesville, Ohio.—*Improvement in Steam Engines*.—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The application to portable steam engines of a hollow continuous bed plate 2, in the manner substantially as described, for the support and attachment of the operative parts of the engine, whereby the latter, in working, is rendered independent of the contraction and expansion of the former, and the boiler 1 relieved from the direct strain of the engine, as set forth.

No. 21,165.—JOHN J. COLLINS, of Philadelphia, Pennsylvania, assignor to Himself, WILLIAM A. RHOADES, and THOMAS DRAKE, of said

Philadelphia.—*Improvement in Steam Engines*.—Patent dated August 10, 1858.—The objects of this invention are economy of fuel, by using the same steam over and over again, and the avoidance of the usual cumbrous boiler arrangement. The claim and engravings explain the nature of this invention.

The inventor says: Without claiming broadly the superheating of steam prior to its admission to the cylinder of a steam engine, I *claim* combining together, for joint action, a cooler, regenerator, and steam engine, when the said regenerator is constructed and operated substantially in the manner set forth, and when it is furnished with the devices specified, or any equivalent to the same, by means of which it receives a supply of steam from the coolers, retains it until it is superheated, and delivers it to the engine at intervals regulated by the movements of the latter.

No. 21,907.—C. A. SCHULTZ, of New York, N. Y.—*Improvement in Steam Engines*.—Patent dated October 26, 1858.—In operating this invention the revolving cam wheel M will make the same revolutions as the crank shaft G, by means of bevel wheels O O and revolving shaft N, and the same will open and shut the valve H by means of opening cams *c c* and cut-off cams *d d*. The cams *c c* and *d d* operate the valve H by coming in contact with the friction rollers *p p* on valve stem K. The governor P is attached to socket L to regulate the speed of the engine.

The inventor says: I *claim* the revolving cam wheel M, with the opening cam *c c* and adjustable cut-off cams *d d*, constructed as described.

Second. I claim the socket L with guide rods *e e*.

No. 22,200.—RUFUS PORTER, of Washington, District of Columbia.—*Improvement in Steam Engines*.—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* furnishing steam engine cylinders with balance valves E F, combined with lifting shafts G, and so arranged that both induction and eduction valves communicate with the same port, substantially as described.

I also claim, in combination with balanced valves, arranged as described, so connecting the induction valves E to a governor, by an arrangement of mechanism, substantially as described, that the said induction valves shall be so regulated by the governor as to admit into the cylinder such quantities of steam as shall be required to maintain a proper and uniform motion of the engine.

No. 20,533.—JACOB WIDMER, of New Haven, Connecticut, assignor to Himself and HOWARD GILBERT, of said New Haven.—*Improvement in the Mode of Applying the Power of the Steam Engine*.—Patent dated June 8, 1858.—This improvement consists in so arranging and connecting a double-toothed rack *d*, cams B B, levers *h h*, and grooves *b*, with gear wheels, that the levers, cams, and grooves will cause the rack to act alternately upon the two gear wheels in such a manner

as essentially to cause the full force of steam on the piston to be given off to the machinery, &c., at all points.

The inventor says: I *claim*, first, the combination of the rack *d*, with the cams B B, and grooves *b*, when constructed, arranged, and made to produce the result, substantially in the manner set forth.

Second. I also claim the combination of the levers *h* and *h*, with the rack *d* and cams *g* and B B, when the whole is constructed, arranged, and made to operate substantially as described.

No. 19,057.—ADAM WOOD, of Pittsburg, Pennsylvania.—*Improvement in Oscillating Steam Engine*.—Patent dated January 5, 1858.—D is the valve by which the induction and eduction of the steam is effected; said valve extending across the interior of the steam chest and fitting to two seats *e e*¹, in which are ports *d d*¹. The valve is made entirely hollow, with three arms *f f*¹ *f*^{*}, two of which, *f*¹ *f*^{*}, are faced to fit the seat *e*¹, and the other *f* is faced to fit the seat *e*. These arms have each one port communicating with the hollow interior of the valve; the said ports corresponding in size with the ports *d d*¹ in the steam chest, and occupying such a position relatively to the axis of oscillation that the oscillation of the cylinder will bring the port *g* of the arm *f* into communication with the port *d*, which acts for the purpose of exhausting the steam from the cylinder through the interior of the valve.

The inventor says: I do not claim the exhaustion of the steam through the valve.

Nor do I claim broadly the attachment of the steam chest to the cylinder to oscillate therewith, and operate in combination with a stationary valve.

I *claim* the employment of a treble-armed centrally balanced valve D, as described.

No. 19,464.—JOHN S. BARDEN, of New Haven, Connecticut, assignor to Himself and AARON W. ROCKWOOD, of Boston, Massachusetts.—*Improved Oscillating Steam Engine*.—Patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim applying the cylinder and the steam chest of a steam engine together in such manner that the cylinder may turn on the steam chest.

Nor do I claim confining them together under such circumstances by means of an arched bar or strap to extend or turn around or slide on a semi-cylindric surface of the same radius as that of the curved outer surface of the steam chest, such being shown in the drawings of letters patent granted to me by the government of the United States of America and numbered 14,335 and 18,718.

But I *claim* combining with the semi-cylindrical steam chest H and the yoke or bar I, substantially in manner as specified, a small rocker bearing *p*, socket *o*, and spaces *q q*, arranged between or with respect to the valve chest and bar essentially as set forth.

I also claim the above described arrangement of the induction and eduction chambers and their ports in the semi-cylindric steam chest.

I also claim the application and arrangement of the two separate rotary cut-offs $r r$ within the induction chamber d and with respect to its two sub-ports $h i$, as specified.

I also claim the combination of mechanism for operating the two cut-offs, the same consisting of the secondary crank M , the slotted rocker lever L , the cranks $S S$, and the connexion bar K , or its mechanical equivalent.

I also claim applying the wrist of the secondary crank M to the wrist of the primary crank, so that the former may be adjustable with respect to the axis of the primary crank, as and for the purpose specified.

No. 21,873.—EZRA COPE, of Cincinnati, Ohio.—*Improved Steam Pumping Engine*.—Patent dated October 26, 1858.—The nature of this improvement consists in the arrangement of a single trunnion, having both steam and water passages therein and guide rods to connect the piston rods of two cylinders to oscillate thereon; and the arrangement of the escape steam passages to intervene and separate the steam and water passages to prevent condensation of the supply steam.

The inventor says: I *claim* the arrangement of the water passages both in one trunnion and guide rods to complete an independent pumping engine.

I further claim arranging the escape steam passage to separate the steam supply and water passages to prevent condensation of the supply steam, all substantially as and for the purposes set forth.

No. 19,715.—THOMAS ROGERS, of Philadelphia, Pennsylvania.—*Improvement in Revolving Cylinder Steam Engines*.—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the arrangement of ports and passages for the induction and eduction of steam.

But I *claim* the two L-shaped stationary hollow steam heads $C D C^1 D^1$, applied and arranged substantially as described, to constitute stationary journals for the two-hubbed drum or fly-wheel E and bearings for the cylinder journals, while they also constitute valves for the induction and eduction of the steam, substantially as described.

No. 19,098.—NAHUM S. C. PERKINS, of Norwalk, Ohio.—*Valve Arrangement for Steam Engines*.—Patent dated January 12, 1858.—The claim and engravings describe the nature of this invention.

Claim.—The arrangement of the reciprocating driving lever F to the lap valve, when permanently geared with the piston rod c of the engine, so as to have a constant motion with it in a direct and positive manner, as shown and described; lap controlling valve G permanently linked or geared thereto for like continuous operation, and independent, intermittent piston or pressure-driven main valve or valves $R R^1$ for operation together relatively to each other and the engine piston, as specified.

No. 21,911.—THOMAS STEWART, of Philadelphia, Pennsylvania.—*Improvement in Applying Power to the Cranks of Engines*.—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Keeping the piston-rod F at rest whilst the crank E makes about one-fourth of its revolution on each opposite side of an imaginary line passing across the centre of the said crank's shaft at right angles with another such line passing through the axis of the piston-rod, the same being effected by means of the yoke D, or its equivalent, constructed so as to operate substantially in the manner and for the purpose described.

No. 21,789.—WALLACE WELLS, of New York, N. Y.—*Improved Construction of Cylinders and Pistons for Pumps and Steam-Engines*.—Patent dated October 12, 1858.—The cylinder is constructed without heads, and has three pistons, the two end pistons B B being connected together by rods *r r* working through the middle piston C at points opposite the centre. The middle piston has a rod *s* working through the centre of the piston. The latter has two connecting rods D D of equal length attached at points opposite its centre and connecting with one arm E of the lever. The upper end of the rod of the middle piston has a connecting rod G connecting with the other arm H of the lever.

Claim.—The improved mode described of constructing the cylinders, pistons, and their connexions, for steam-engines, and applying steam thereto, and of constructing the cylinders, pistons, and their connexions, in fire-engines, pumps, and other machines using cylinders and pistons.

No. 19,220.—NORMAN W. WHEELER, of New York, N. Y.—*Arrangement of Passages and Valves for Cushioning the Piston of Steam-Engines*.—Patent dated January 26, 1858.—The nature of this invention consists in arranging check-valves F and G in passages which open into the steam cylinder within the piston-stroke, so that live steam from behind the piston, near the end of a stroke, passes into the clearance before the piston and into the side pipe and spaces connected therewith, thus arresting the motion of the piston, partially balancing the main valves, and filling the dead space of the engine with steam which would otherwise be lost.

Claim.—Arranging the check-valves in the steam passages for cushioning the piston and balancing the steam-valves with steam taken from behind the piston, substantially as set forth.

No. 19,154.—AUGUSTIN P. SAMUEL, of New York, N. Y.—*Improvement in Cut-Offs for Steam-Engines*.—Patent dated January 19, 1858.—Motion is given to the pieces *q t*, being the movable parts of the helical curves, by the right and left screw *u v* working the rods 1 and 2, thus pushing and pulling the curves *q* and *t*. The screw *u v* is worked by a small crank *e'*, or by regulators or governors.

Claim.—The adjustable bars *q t*, making, with the helical slot in the rock-shaft plate *y*, an uniform curve, arranged substantially as

described, within or in connexion with such helical curve or slot in such rock-shaft *y*, for varying the cut-off, as above set forth.

No. 21,399.—JACOB WIDMER, of New Haven, Connecticut, assignor to Himself and HOWARD GILBERT, of said New Haven.—*Improved Cut-Off for Steam-Engines*.—Patent dated August 31, 1858.—This improvement consists in so constructing and arranging the two cams, one permanently fixed on the hollow shaft, of sufficient extent from the centre of the shaft to open the steam port to its full extent at each half revolution; and the other cam so adjustable by the operation of the governor only as to cut off the steam at any desired portion of the stroke, so as to preserve a uniform motion of the piston of the engine by the operation of the steam only, without reference to the fire or throttle-valves.

Claim.—The combination of the bevel gear-pinion J, operated by the endless chain L and rod M, with the bevel gear wheel H, with its cam G, when the whole is constructed, arranged, and made to produce the result substantially as described.

No. 22,344.—JOHN BROUGHTON, of New York, N. Y.—*Improved Cut-Off Gear for Steam-Engines*.—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the two rock-shafts H H, their arms N N, the vibrating links O O, the rods L L, and the lifters M M, the whole applied, substantially as described, to operate upon a tappet or tappets on the valve-stem E or its equivalent, for the purpose of lifting the valve, and subsequently tripping it by the continued and inherent motion of the lifters.

Second. In combination with the above specified lifting and tripping mechanism, I claim the combination of the pendulous rods R R, the toggle-links S S, and the slide T, or their equivalents, connecting with a governor or other means of adjusting the same to vary the positions of the centres of motion *c c*, substantially as described, for the purpose of varying the point of cutting off the steam.

No. 22,361.—P. W. GATES, D. R. FRASER, and THOMAS CHALMERS, of Chicago, Illinois.—*Improvement in Cut-off Gear for Steam-Engines*.—Patent dated December 21, 1858.—This invention consists in a novel construction of two sliding toe-pieces, and a mode of applying the same to a rocking frame operated by the steam-engine, in combination with a double lifter attached to the stern of the cut-off valve and with a governor, or other regulating apparatus, to produce and vary the action of the cut-off for the purpose of controlling the speed of the engine.

Claim.—The two sliding toe-pieces L L, constructed as described, and applied within the rocking frame J, to operate substantially as described, in combination with the double lifters G e e, attached to the valve stem, and with a stud and roller *j i*, or their equivalent, connected with a governor, or otherwise made movable.

No. 19,890.—ROSS WINANS, of Baltimore, Md.—*Improvement in Grates for Steam-Engines*.—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the grate of a locomotive engine, composed of a series of narrow sections, G, each containing two or more bars and supports therefor, the sections and their supports being constructed and arranged substantially as set forth, to permit each section to be rocked independently of the other by means of a hand lever applied outside of the fire-box, as set forth.

I also claim the construction of the series of bars of the grate and the bearer for supporting the same, as described, so that any member of the series may be rocked upon two axes, without contracting the narrowest part of the spaces between it and the adjacent stationary members of the series, as described.

No. 19,888.—ROSS WINANS, of Baltimore, Md.—*Improvement in Pistons for Steam-Engines*.—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination, substantially as set forth, of self-setting packing that, unaided by the skill of the engineer, will adjust itself into close contact with the cylinder, and bear against the same with the proper force; of means for binding this packing firmly in place when it has set itself out, and for slackening it again when necessary to allow it to rest itself; and of means by which the packing can be easily loosened and tightened without removing the cylinder head, whereby the packing of the piston of a locomotive can be adjusted better, and in less time than by any combination previously invented.

No. 19,134.—ADDISON CROSBY, of Fredonia, N. Y.—*Improvement in Variable Cut-offs for Steam-Engines*.—Patent dated January 19, 1858.—The nature of this invention is explained by the engravings and claim.

The inventor says: I am aware that hollow valves have been before employed upon the back of a sliding valve, and therefore I do not claim, broadly, the employment of hollow valves, except as described.

I *claim* the arrangement of the two hollow plug cut-off valves in a double chambered valve box D D, which has a sliding movement on the back of the main valve, for the purpose of opening and closing the said valves, to admit and cut off the steam, by means of toe-pieces *i i*, or their equivalents attached to the latter, coming in contact with suitable pieces within the steam chest, substantially as described.

No. 22,189.—RICHARD L. MILLS, of Lancaster, Ohio.—*Improved Gauge Cock*.—Patent dated November 30, 1858.—This invention consists in a certain arrangement of two conical valves on a screwed stem, in combination with a female screw, and a certain arrangement of two conical seats within the cock, whereby all packing for the stem is dispensed with, and yet the escape of steam around the stem, when the cock is open, is effectually dispensed with.

Claim.—The arrangement and combination of the lining tube C and the cap E containing the adjustable seats *c g*, with the double stem D, as and for the purposes shown and described.

No. 20,726.—ALEXANDER MILLER, of Cleveland, Ohio.—*Improved Gauge Cock and Alarm Whistle*.—Patent dated June 29, 1858.—This invention consists of a steam whistle A A¹, of the usual form of construction, and is inserted into a boiler above high water mark, and so arranged in relation to its valve that the steam is allowed to escape as soon as the water falls below the point of safety.

The inventor says: I am aware that a steam whistle has been so combined with a valve and with a float that when the water in the boiler becomes low the descent of the float will operate the valve and allow steam to escape to the whistle and give alarm, and it is upon this combination that my improvement bears; but I do not claim to have invented the combination nor the means or devices irrespective of their arrangement by and under which such combination may be made useful, and therefore—

What I *claim* is, the described arrangement of the steam alarm whistle and gauge cock, with the jointed lever H m n, when constructed and operating in the manner and for the purpose set forth.

No. 20,851.—JOSHUA LOWE, of New York, N. Y., assignor to Himself and DANIEL BARNUM, of Jersey City, N. J.—*Improved Magnetic Steam Gauge*.—Patent dated July 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that air and mercury have heretofore been combined and used in tight isolated or separate chambers to make pressure gauges, but not in combination with a self-adjusting magnet and traversing needle. I am aware also that magnets, dial plates, and needles, have been used in combination, but not in a tight, isolated chamber separated from the steam boiler, or other means of making pressure, or for the purpose of marking or indicating either pressure within a boiler or a vacuum in a condenser. I therefore do not claim either of these except as herein specified and for the purposes named.

But I *claim* the construction of a polar magnet with one arm or pole larger than the other, so that the enlarged pole will float on the surface of the mercury, whether the lesser pole be immersed or not, whenever the said magnet is placed within a chamber filled or partially filled with mercury, and hung on pivots *a* in the centre, thus making a self-adjusting movable magnet, capable of being used as a floating magnet within, in a small tight chamber, substantially as described and shown.

I claim, also, the combination of a floating magnet, a magnetic needle, and a dial or index plate *b*, forming one side of an isolated tight chamber, and with mercury and air within said chamber or their equivalents, for the purpose of making a magnetic pressure gauge, substantially as described and shown.

I claim, also, the combination of a floating magnet *d*, a magnetic needle, and a dial or index plate, forming one side of an isolated tight chamber, and with mercury or other fluid within said chamber, for the purpose of making a magnetic vacuum gauge, substantially as described and shown.

No. 20,848.—WILLIAM C. GRIMES, of Philadelphia, Pa., assignor to DAVID MATTHEW, of Philadelphia aforesaid.—*Improved Pressure Gauge*.—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am well aware that pressure gauges with parallel glass tubes B² C², and siphon tubes indicating pressure by a column of mercury and compressed air have been used, but they have no such effect as mine, and I do not wish to be understood as claiming any such arrangement.

But I do *claim* the peculiar construction of a mercurial pressure gauge, having two concentric glass tubes, so proportioned to each other and the reading scale as to produce the necessary space to register the units and tens, and make them more uniform and legible, substantially as set forth.

No. 19,731.—FRANZ BURCKLE, of Boston, Massachusetts, assignor to EDWARD H. ASHCROFT, of said Boston.—*Improvement in Steam Gauges*.—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim so attaching the piston to an elliptic spring that such piston shall be wholly supported by such spring, either with or without contact of the piston with the sides of the passage or space within which the piston may move.

Nor do I claim connecting one end only of the piston to the spring.

Nor do I claim supporting one end of a rod by a set of radial bars or toggles, while its other end is supported by a spring, and the rod is carried through a tube, as shown in the drawings of No. 13,917 of United States patents; for, in my mode of supporting the piston and keeping it from contact with the sides of the passage through which it extends, the radial disk-spring not only performs the function of supporting the elastic diaphragm and centralizing the piston, but that of a spring, to draw the latter downward under any relaxation of the pressure of the steam.

Nor do I claim the employment of a collapsable hollow spring, or combination of concavo-convex springs, and their application to their case or frame, and a pitman, as shown in Grantoff & Albright's gauge, as described in the London "*Mechanics' Magazine*," vol. 66, page 269, wherein the collapsable spring operates by the lateral contraction on raising the pitman. The upper spring of the piston of my improved gauge operates by latitudinal extension in elevating the piston.

But I *claim* supporting the upper end of the piston by the main spring H, in combination with supporting the lower end of the said piston by a radial disk-spring applied to it and the elastic diaphragm, operating therewith, substantially as described, the same serving not only to centralize the piston during its movements, or maintain it in a straight path, and out of contact with the sides of the passage through which it plays, but to operate in other respects, as set forth.

I also claim fastening the main spring H at the middle part of its inferior half with the lower part of the box or case, and making the piston play through the fastening and abut against the upper half of

the spring, the same causing the spring, under pressure of the steam against the diaphragm, to operate by latitudinal extension rather than by contraction, and securing advantages as set forth.

No. 22,287.—GEORGE W. GRADER and BENJAMIN F. COWAN, of Memphis, Tennessee.—*Improved Steam and Water Alarm Gauge for Steam Boilers*.—Patent dated December 14, 1858.—This invention consists in an arrangement of the parts of an alarm gauge for steam and water, whereby the whole, with the exception of a float that is arranged within the boiler, and a whistle, are brought into a very compact form within a closed case and of limited size, without the use of stuffing-boxes or packing of any kind, making an instrument which can be placed in the cabin of a steam vessel, and which is beyond the control of the engineer or any other person out of the cabin, and serves to announce to the captain or other officer and passengers when there is an excess of steam or deficiency of water.

The inventors say: We do not claim, broadly, the invention of a combined steam and water alarm gauge.

Nor do we claim, broadly, the dispensing of a stuffing-box or packing in a water gauge.

But we *claim* the combined arrangement of the two valves F I and their seats, the several chambers and passages, the valve levers and their connexions within the case A, substantially as described, whereby the construction of the instrument is rendered simple, its form compact, and its size limited, with the use of stuffing-boxes or any packing.

No. 19,400.—WILLIAM BURNETT, of Boston, Massachusetts, assignor to SETH ADAMS, of said Boston.—*Improved Steam Pressure Gauge*.—Patent dated February 16, 1858.—A is the case, with a glass plate over the dial and working parts. To the inside of the lower part of this case is secured, by screws *a a* passing through the case, a block B, from which rises a hollow flattened pipe C, of brass or other suitable metal properly tempered by hammering or otherwise, to retain its elasticity. The top of this pipe is closed steam-tight by a block D, which is brazed into it, and secured by riveting. Upon the block D are secured two short standards *b*; these serve as bearings for a shaft C, which projects through both standards, and carries on its front end the index hand E pointing to the dial F.

The inventor says: I am aware that a flattened elastic *curved* tube has been used to indicate the amount of pressure applied to its inner surface by its tendency to straighten out when the pressure is applied. I do not, therefore, claim such an application of a flattened tube.

But I *claim* the use in a pressure gauge of a straight flattened tube, in combination with suitable mechanism for communicating the motion of the flattened sides of the tube, caused by pressure applied to its surfaces, to a suitable indicating apparatus.

No. 19,177.—MOSES M. YOUNG, of East Boston, Massachusetts, assignor to Himself, HARVEY F. LITCHFIELD, and JOSEPH G. HAMBLIN, of East Boston, Massachusetts.—*Improvement in Steam Spring-Pressure*

Gauges.—Patent dated January 19, 1858.—This invention has reference to what is usually termed a “spring-pressure gauge,” the nature of the improvement consisting in supporting the piston entirely by an elliptic spring, sustained in position by a cross-bar or partition B, or its equivalent, applied to the case of the instrument; the piston E being made to rest in other respects only against the elastic diaphragm, and to have no communication with the sides of the space within which it is situated and moves.

Claim.—Supporting the piston entirely by an elliptic spring, sustained in position by a cross-bar or partition, or the equivalent thereof applied in the case, and making the piston to rest in other respects only against the elastic diaphragm and have no connexion with the sides of the space within which such piston may move, the whole being productive of an advantage, as above stated.

No. 22,313.—THOMAS STUBBLEFIELD, of Columbus, Georgia.—*Improvement in Water Gauges for Steam Boilers.*—Patent dated December 14, 1858.—This improvement in water gauges consists in combining a float to swim on the water in a steam boiler with a main valve to close a duct for the escape of steam or water from the boiler and a small secondary valve between the float and the main valve in such a manner that the water in the boiler falls below a given height. The float, by descending with it, will, without opposing the pressure of the steam, put the main valve in such relations with the boiler that the pressure of the steam therein, independently of any aid from the float, will open the main valve to allow steam or water to escape and give an alarm.

The inventor says: I *claim* the combination of a float, a secondary valve, and a main valve, substantially as set forth.

I also claim the method of preventing a too sudden opening of the main valve, by insulating (in a chamber or its outer side, exposed to the air) a quantity of steam, substantially as set forth.

No. 20,894.—CHARLES T. PORTER, of New York, N. Y.—*Improvement in Governor for Steam-Engines.*—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, in combination with arms and balls, or their equivalents, revolving at a much higher velocity than would be natural to them considered as a conical pendulum, the employment of a counterpoise, applied substantially as described, and so proportioned in weight as to balance, or nearly so, the centrifugal force developed by the revolution of said arms and balls, or their equivalents.

Second. I claim so applying the counterpoise to the governor that its effective load shall be lessened as the governor rises or as the balls and arms thereof, or their equivalents, expand, for the purpose of rendering it constant, or as nearly so as desired, relatively to the power of the governor to sustain it.

Third. I claim the employment of the counterpoise applied to the governor in any manner substantially as specified, as a means of fixing or adjusting the exact speed of the engine, as described.

No. 21,056.—ALBAN ANDERSON, of Lancaster, Ohio.—*Improved Governor for Steam-Engines*.—Patent dated August 3, 1858.—This invention consists in a machine which sets in regulated and adjusted motion a disk M, and the frame G G which supports it, and obtaining power therefrom; a resultant force, which is of considerable power and is very sensative to an increase or diminution of velocity; and an adjusting and regulating force of power is obtained, so that it may be applied as a governor to steam or other engines, or machinery, and to control and regulate valves for cutting off steam where steam is used expansively, and to other like objects and purposes.

The inventor says: I disavow all claim to the invention of any single or isolated part of the machinery used in the combination described, each and all of such parts, taken separately, being in common use.

But I *claim* the combination of machinery described, and the production thereby, or by its equivalent, of the resultant force defined, and the application of such resultant force to the regulation of the movement of machines or engines.

No. 21,475.—WILLIAM W. W. WOOD, of Philadelphia, Pennsylvania, assignor to JOHN RICE, of said Philadelphia.—*Improvement in Governors for Steam-Engines*.—Patent dated September 7, 1858.—This invention consists in regulating the throttle-valves of marine and other steam-engines by means of weighted rods acting in connexion with a central pulley or lever, and other devices, or other equivalents; the said rods being so guided that their outward movement, caused by their centrifugal action, shall be in a straight line radiating from the centre round which they revolve; the said pulley being so arranged in respect to the weighted rods that, on the flying out of the latter, the pulley shall turn in a plane at right angles to that in which the said weighted arms revolve. The central pulley, or its equivalent, is so connected to the rod or other device for moving the regulating valve of the engine that the force applied may constantly increase as the weights fly out, and thus compensate for the increasing resistance of the force applied to draw the weighted rods inwards.

The inventor says: I *claim*, 1st. Regulating the throttle valves of steam-engines by means of the weighted rotating rods *m* and *n*, in combination with the pulley *c*, or its equivalent; the said weighted rods being so guided that, when actuated by centrifugal force, they can only move in a straight line radiating from the centre round which they revolve; and the rods being so constructed and arranged in respect to the said pulley, or its equivalent, that, on the flying out of the said rods, the pulley will turn on its axis in a path at right angles to the path in which the said rods rotate.

2d. Applying the force obtained by the centrifugal action of revolving weights to the regulation of the throttle-valves of steam engines through the intervention of the pulley *c*, or its equivalent, when the said pulley is connected to the revolving weights and to the rod for operating the valve by the devices described, or their equivalents, whereby a force, constantly increasing as the weights fly out,

may be obtained to compensate for the constantly increasing force applied to draw the weights inwards, as specified.

No. 22,380.—H. C. SERGEANT, of Columbus, Ohio.—*Improved Governor for Steam-Engines*.—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, 1st. A steam-engine governor composed in part of a steam engine which is subject to a uniform resistance, and which works independently of, and by its own velocity controls the velocity of, the engine to be governed, substantially as set forth.

2d. The employment of two disks I and N, having spiral projections *ff* and *jj* on their faces, and provided with stop pins *qq*, applied substantially as described, to combine an engine which is to be regulated with an isochronous revolving regulator.

3d. The combination of what is herein termed the “regulator engine,” its regulator S T *k l m*, and regulating valve U, or their equivalents, and the shafts H and M, and their spiral-faced disks I P, one driven by said engine and the other by the engine to be governed, the whole applied and operating in combination with a regulating valve B B¹, or its equivalent, substantially as described.

No. 19,995.—ROSSWELL D. JACOBUS, of Newark, New Jersey.—*Improved Steam Governor*.—Patent dated April 20, 1858.—The nature of this invention consists in obtaining an action of the throttle-valve simultaneous with the change of speed of the engine by means of a governing power separate from the engine.

Claim.—Using a distinct motive power from the main engine with the motive power of the main engine to operate a governor in combination with machinery constructed in the same or similar manner, and for the purposes specified.

No. 21,699.—MARTIN ROBBINS and JOHN L. FRISBIE, of Cincinnati, Ohio.—*Improved Water Indicator for Steam Boilers*.—Patent dated October 5, 1858.—By turning the stem F, by means of a handle G, or otherwise, the swivel I, forming the fulcrum of the float, is moved up or down, and thus the point of alarm is graduated to the minimum stage of water desired, or the alarm may be sounded by hand by temporarily turning up the stem F, when it is desired to use the whistle for the ordinary purposes of signalling.

The inventors say: We *claim*, 1st. In the described combination, with a customary steam alarm, the steam pipe B, provided with a central screw, stem, and swivel F *f* I, supporting the fulcrum of the float arm, in the manner and for the purposes set forth.

2d. In this connexion we claim the small steam dome A *a* enclosing the branched pipe B C, valve K, and lifter L, substantially as and for the purposes set forth.

No. 20,847.—WILLIAM C. GRIMES, of Philadelphia, Pennsylvania, assignor to DAVID MATTHEW, of Philadelphia aforesaid.—*Improvement in Water and Steam Indicators*.—Patent dated July 6, 1858.—This

invention consists in making the glasses B^2 C^2 D^2 concentric and making the areas differ, so as to give less to the column indicating the water level, while the column indicating the height of water shall traverse nearly inch for inch with the rise and fall of the water in the boiler when under pressure, making the change between the two columns identical with the rise and fall of the water in the boiler, also in making more or less of the connecting pipes, as virtually to form a compound or double syphon.

Claim.—The manner of constructing and arranging the concentric glasses and connecting tubes, as and for the purpose set forth.

No. 22,439.—DAVID MATTHEW, of Philadelphia, Pa.—*Improvement in Locomotive Axle Bearings.*—Patent dated December 28, 1858.—A is the box, B is the hole through which the journal passes, C is the oil collar, D D are the bearings of brass, d^1 is the oil cup, E is a slot cut through the thickness of the brass and extending the whole length of the bearing with the exception of the connecting pieces F at each end.

Claim.—The peculiar construction of the journal box or bearing in in one piece, having a longitudinal slot or opening, operating as and for the purpose set forth.

No. 20,115.—ROSS WINANS, of Baltimore, Md.—*Improvement in Fire Box of Locomotive Boilers.*—Patent dated April 27, 1858.—This improvement has reference to locomotive engines in which coal is used as a fuel, and particularly to the fire-box or that portion of the locomotive in which the fuel is burned; it consists of means by which the fire can be inspected and got at through the whole extent of the fire-box, so as to permit the fireman to break up the crusts which form, and, if necessary, to rake the whole fire.

Claim.—The construction of the fire-box in such manner that its entire rear side can be opened and closed substantially as set forth.

No. 20,117.—ROSS WINANS, of Baltimore, Md.—*Improvement in the Furnaces of Locomotive Boilers.*—Patent dated April 27, 1858.—This invention consists in a new mode of constructing, combining and arranging the various parts of a locomotive engine in such a manner as to obtain an enlarged fire-box suitable for burning coal advantageously without interfering with the working of other parts of the engine.

Claim.—The construction and arrangement of the locomotive engine substantially as set forth, so as to obtain a fire-box of greater width than the space within the main frame.

No. 19,889.—ROSS WINANS, of Baltimore, Md.—*Improvement in Locomotive Engines.*—Patent dated April 6, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim* the combination of a foot-board located below the usual level of the platform of the tender and the surface of the grate, with a fire box and grate adapted to the burning of coal as fuel, whereby the interior of such a fire-box and the grate thereof can be more readily reached by the fireman, and his duties be performed with greater expedition, convenience, and effect.

I also claim the combination of an ash-pan, open at its hinder end, with a foot-board located below the grate and the usual level of the platform of the tender, whereby the lower side of the grate and the space beneath can be inspected and reached by the fireman while the engine is in motion.

No. 19,962.—ROSS WINANS, of Baltimore, Md.—*Improvement in Locomotive Engines*.—Patent dated April 13, 1858.—The nature and object of this invention are shown by the claim and engravings.

Claim.—The arrangement of the house or position for the engine man between the fire-box and the forward end of the boiler, to aid in properly distributing the weight upon the wheels in a locomotive engine, with a fire-box of the large size necessary for the economical burning of coal as fuel, and incidentally to secure other advantages, substantially as set forth.

No. 21,290.—ROSS WINANS, of Baltimore, Maryland.—*Improvement in Locomotive Engines*.—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination with the smoke-box of a locomotive steam-engine, of a blast pipe extending from within the lower end of the chimney downwards to near the lower flues, an annular space between the upper end of the blast pipe and between the latter and the bottom of the smoke-box, and a nozzle directing a jet of steam into the blast pipe; the several elements of the combination being arranged and operating substantially as described.

I also claim the construction of the diaphragm with its upper surface sloping towards the exhaust nozzle, to cause the coals and cinders to run down by their own gravity beneath the blast pipe, thereby bringing them within the sweep of the draught and so rendering their discharge more speedy and more certain.

No. 20,114.—ROSS WINANS, of Baltimore, Maryland.—*Improvement in Fire-Box of Locomotive Engine Boilers*.—Patent dated April 27, 1858.—The object of this invention is to adapt a locomotive to the employment of both wood and coal as fuel, and to the use of either separately with advantage.

Claim.—The combination of a fire-box having one grate and an upper and lower feeding door so arranged as to adapt it to burning either wood or coal, or a mixture of both, as fuel with a locomotive tubular boiler having a steam blast draught, substantially as set forth.

No. 20,116.—ROSS WINANS, of Baltimore, Maryland.—*Improvement in Boilers for Locomotive Engines*.—Patent dated April 27, 1858.—This invention consists of a new mode of constructing the top of the fire-box, by connecting the crown sheet by stays with the outer shell of the boiler, and making space between the crown sheet and the shell above it of sufficient size only to permit the due circulation of water and the free escape of steam.

Claim.—The method of constructing the fire-boxes of locomotive

engines of diminished weight, but of undiminished strength, by staying the crown sheet directly to the exterior shell by means of through bolts, and contracting the space between the two as described, so as to get rid of the disadvantages that would result from the excessive weight of a fire-box of the ordinary construction of sufficient capacity to burn coal as fuel with economy.

No. 19,986.—JOHN F. ELLIOTT, of New Haven, Connecticut.—*Improvement in Driving Wheels for Locomotive Engines*.—Patent dated April 20, 1858.—This invention consists in a novel arrangement of legs and feet applied to the driving wheels of locomotives for running on common roads, or for agricultural purposes, such as plowing and otherwise tilling land, or reaping and mowing by steam power, and operated by a cam or its equivalent, to cause the propulsion of the engine or machine by the rotary motion of the wheels.

Claim.—The combination with the legs E E, operated as described, of the feet D D jointed to the said legs, and connected together by chains to operate, substantially as set forth.

No. 20,937.—LEONARD CROSSMAN and SAMUEL ATKINSON, of Elizabeth City, New Jersey.—*Improvement in Fire-Boxes for Locomotive Engines*.—Patent dated July 20, 1858.—The claim and engraving explain the nature of this invention.

Claim.—The arranging of the grate bars A centrally in the bottom of the fire-box of wood-burning locomotives and surrounding said grates with dead plates C D G H, when said grate bars and dead plates are susceptible of being removed or replaced, substantially in the manner and for the purpose set forth.

No. 21,021.—JOSEPH W. POLE, of Philadelphia, Pa.—*Improvement in Grates for Locomotive Engines*.—Patent dated July 27, 1858.—This invention consists in a certain construction of hollow grate bars, with provision for the admission of air to be forced through them by the movement of the locomotive for the purpose of keeping them cool.

The inventor says : I do not claim the invention of hollow or tubular grate bars, or of hollow bearers therefor, having air passages through them.

But I *claim* the construction of the tubular bars, with hollow upward projections *b b*, fitted with movable top pieces *c c*, substantially as and for the purpose specified.

No. 21,309.—JACOB A. ALTER, of Johnstown, Pa.—*Scraper for Removing Sparks from the Smoke Stacks of Locomotive Engines*.—Patent dated August 21, 1858.—The nature of this invention is explained by the claim and engravings.

The inventor says : I *claim* a scraper constructed and arranged so as to scrape such parts of the spark arrester, smoke stack, and chimney of locomotive engines and other furnaces as require cleaning, and clean them of the soot and sparks substantially as described.

I also claim, in combination with the said scraper, a ratchet wheel

and pall, or such equivalent device as will enable the fireman to operate said scraper by hand, or connect it to some part of the engine so that it will be operated by it, substantially as described.

I also claim the pipe or spout K, for conducting the soot and sparks from the spark arrester or smoke stack, substantially as described.

No. 21,936.—LEVI BISSEL, of New York, N. Y.—*Improvement in Trucks for Locomotive Engines*.—Patent dated November 2, 1858.—This improvement consists in the application of a rigid truck frame, set and moving on a fixed center, that is, located between the center of the driving-wheels and the truck wheels; said frame carries the journal boxes of said truck wheels, and sustain the forward end of the locomotive on double inclined bearing blocks, resting on double inclined bearings on said truck frames.

By this means two truck wheels can be used in consequence of the fixed center, where the truck frame is attached to the boiler, becoming a bearing point to steady and sustain the two truck wheels.

The inventor says: I do not claim a single pair of wheels having a lateral motion, as the same have been proposed for carriages, and also for locomotives, but in such cases they have moved on flat bearing plates, and there was nothing to prevent the truck from maintaining an angular position to the drivers when travelling on a straight line; but by my invention this is prevented, because the inclines, combined and acting as set forth, bring the truck to its proper position as the engine passes off the curve on to a straight track.

What I claim as an improvement on the aforesaid patent of August 4, 1857, is the rigid truck frame *f*, attached to the engine by the bolt or pin *h*, and receiving one pair of truck wheels, in combination with the double inclined bearings *n o*, for the purposes and substantially as specified.

No. 20,596.—A. E. TURNBULL, of Springfield, Ohio.—*Improvement in Locomotive Signals*.—Patent dated June 15, 1858.—The claim and engravings explain the nature of this invention.

Claim.—I am aware that a combination of levers or other devices have been arranged on locomotives in such a manner as to cause obstructions or cams on the track to operate upon them as the locomotive passes the same, and ring a bell, and thus give a signal. I do not therefore lay claim to the parts for accomplishing this object.

But I *claim* the combination of the additional lever F, upon which the second stake or obstruction H¹ operates with the lever E for sounding the whistle, whereby the duration of the blowing of the whistle can be continued to any required extent, and stopped substantially in the manner set set forth.

No. 21,130.—JOHN C. HAGAN, of Nashville, Tenn.—*Improvement in Locomotive Steam-Engines*.—Patent dated August 10, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, arranging the cylinder of a steam engine substantially as described, or in an equivalent manner, so that it is free to move at right angles to the motion of its piston rod R, and

in a plane parallel with the plane of motion of the cranks connected with the rod.

Second. In combination with the cylinder of a steam engine, arranged so that it is free to vibrate, I claim connecting each end of the piston rod with the crank of a driver, and giving motion to both drivers in the same direction, without the interposition of connecting links.

Third. Giving to the cylinder of a steam engine a positive reciprocating motion, by combining therewith a secondary engine, or any equivalent mechanical device, arranged so as to support and move the cylinder in a plane parallel with the plane of motion of the cranks connected with its piston rods, and in right angles to the line of motion of the piston rod.

Fourth. Supporting the main cylinder in the guides in which it vibrates, by means of trunnions arranged as described, so that the cylinder may accommodate itself to the axles of the drivers on an uneven track.

Fifth. Connecting the slide valves of the secondary engine with the quadrant block of the expansion gear of the main engine, by which means the motion and the changes in the valves of both engines are uniform and simultaneous.

Sixth. The combination of the slotted link P L, the cam block F, the pump hand gear, or any mechanical equivalents, whereby not only can the length of stroke of the pump be varied during the motion of the engine, but also the pump may be worked while the engine is at rest, as described.

Seventh. Combination of the sliding steam-pipes I with the main driving cylinder, arranged substantially as described, for the purpose of admitting steam to the cylinder.

No. 19,469.—JOHN O. D. LILLY, JAMES L. VANCLAIN, and JAMES W. LILLY, of La Fayette, Indiana.—*Improved Arrangement for Carrying Off Smoke from Locomotives in Engine Houses.*—Patent dated February 23, 1858.—B represents the furnace (stationary) and C a stack. D is a flue which encircles the building beneath the floor and connects with the stack C. E are pipes which extend upward from the flue D; each branch descends to a little above the funnel top of the locomotive when backed into its stall. F is a short tube resembling an inverted funnel, its stem fitted to play up and down snugly within the depending portion of the pipe, and its mouth adapted, when the tube is lowered, to fit around the rim of a locomotive funnel G, bringing the flues of the locomotive into communication with those of the building.

The inventors say: We do not intend to claim the movable hood as new in itself.

Neither do we claim, broadly, the idea of conducting smoke from a movable furnace into a stationary flue.

But we *claim* the described construction and arrangement of the movable hood F, or its equivalent, adopted to fit closely over the top of a locomotive funnel, when used in combination with conducting flues D E, stationary furnace B, and stack C, for the purposes specified.

No. 19,468.—SOLOMON G. HOGE, of Bellefontaine, Ohio, assignor to Himself, R. H. ST. JOHN, of said Bellefontaine, and J. E. LEAS, of Dayton, Ohio.—*Improvement in the Manner of Attaching Legs to Walking Locomotives*.—Patent dated February 23, 1858.—When the machine is set in motion, the power to protect it is communicated to the small driving pinions or spur wheels J J J J, which set in motion the large wheels i i i i, which being attached to the rods n n, and the ends of these rods being connected to the sliding bars o o o o o, said bars thereby have a reciprocating motion horizontally back and forth, and as the legs or walkers P P P P are hinged to the said sliding bars, these legs must consequently have a forward and backward motion, each pair of legs alternating in position, and as it were stepping off distances.

The inventor says: I am fully aware that machines or land conveyances have been moved or actuated by leg-like or perambulating devices; such, however, as an original principle of invention, I do not claim.

But I *claim* the construction and arrangement of the sliding bars o o o o o with pendant hinged legs or perambulating devices P P P P, and the combination thereof with the connecting rods n n and the wheels I I I J J J, when operated substantially in the manner described and set forth.

No. 19,722.—AUGUSTIN P. SAMUEL, of New York, N. Y.—*Improvement in Pistons and Piston Rod Connexions*.—Patent dated March 23, 1858.—This invention will be explained by reference to the claim and illustrations.

The inventor says: I do not claim generally transmitting motion from a fixed cylinder direct to the crank without intermediate connexions, by means of an oscillating cylinder rod.

But I *claim* a direct connexion of the piston rod to the crank, with a fixed cylinder, by the use or by the means of the arrangement of the movable boxes G G in the piston, forming the connexions between the piston and piston rod, in combination or connexion with the part d x¹ moving upon the curved covers of the cylinder, the whole arranged substantially as and for the purposes set forth and specified.

No. 21,678.—HANFORD HORTON, of New York, N. Y.—*Improvement in Packing Pistons for Steam Engines*.—Patent dated October 5, 1858.—The nature of this invention consists in a new mode of applying "springs" for the purpose of keeping the "packing rings" in their places and preventing the rings from working against the follower and the under portion of the piston, (in the upright cylinder,) by which means the wear and consequent necessity of frequent re-fitting is greatly lessened.

The inventor says: I *claim* the application of the figure 8, or other appropriate spring, between the upper and the lower set of metallic cylinder rings, as described and set forth, by which an upward and a downward pressure is obtained on said rings. I do not claim the application of springs to produce an outward pressure, said springs

acting on a single or spring ring which keeps out the two cylinder rings, as that has heretofore been in use by others as well as myself.

But I do claim the combination of the six rings $a\ 1\ 2\ 3\ b\ 1\ 2\ 3$ with the figure of 8, or other appropriate spring, between them to produce an upward and downward pressure, in combination with the figure of 8, or other appropriate spring, acting on the two spring rings, producing an outward pressure on the four cylinder rings, thus making a steam tight joint on the upper edge of the upper cylinder ring, as well as on the lower edge of the lower cylinder ring, and also on the cylinder surface of the cylinder rings.

No. 21,687.—JOSEPH MARKS, of Boston, Massachusetts.—*Improvement in Spark Arresters*.—Patent dated October 5, 1858.—This invention consists in a peculiar arrangement of devices by which the sparks are entirely consumed and ground up, as it were, before they can leave the smoke pipe, and at the same time the steam allowed a free passage every time the engine exhausts. The arrangement of devices employed in this invention consists of what is termed by engineers a “petticoat pipe” formed of a series of short tapering pipes slightly overlapping each other, but not in immediate contact, surrounded by a wire gauze, or other similar device, the whole being enclosed by a smoke pipe of enlarged diameter.

Claim.—The combination of the petticoat pipe, the surrounding wire net work and the smoke pipe, whereby, while a free exit passage is secured for the exhaust steam, an intermittent draught is produced upon the outer surface of the wire net work, which pulverizes the sparks and retains them until they are consumed, as set forth.

No. 20,835 —SYLVESTER W. WARREN, of Brooklyn, N. Y.—*Steam Alarm and Safety Apparatus*.—Patent dated July 6, 1858.—This invention consists in a certain method of applying a spring C in combination with a valve E and a tube B, one end of which is connected with the upper part constituting the steam space of a steam boiler, and the other the lower part of the water space thereof. When the water gets below the proper level in the boiler, the water leaves the tube and the steam fills it, and thereby causes an increase of its temperature by which it is caused to expand longitudinally, and by its expansion made to act upon the spring to move the valve, and permit the escape of steam to sound an alarm whistle, or to open a feed pipe.

The inventor says: I do not claim the expanding tube nor any of the parts that have heretofore been used in boiler alarms.

But I *claim* the arrangement and combination, substantially as shown and described, of the arched or curved spring C, valve E, and tube B, for the purposes set forth.

No. 21,000.—ROBERT HALE, of Roxbury, Mass.—*Apparatus for Distributing Steam*.—Patent dated July 27, 1858.—This invention is described by the claim and engravings.

The inventor says: I do not limit myself to the exact form of “distributor” described, as it may be varied without departing from the spirit of my invention. For instance, if the distributor is placed in a

corner of the tank, a quadrant shape may be found to be better suited to the position occupied by it, a flat cap may be placed over the funnel-shaped orifice of the connecting pipe, leaving an annular opening around it.

Thus far I have spoken of my invention as particularly applicable to heating the feed water of engines, and it is my intention to employ my distributor in connexion with a method of separating a portion of the exhaust steam of locomotives for the purpose of heating the feed water, but it is obvious that it may be used to advantage whenever water is to be heated by the injection of steam, as in bathing establishments and manufactories. I do not therefore limit myself to its employment for the purpose of heating the feed water of steam engines alone, but intend to employ it wherever it may serve to accomplish the end which I have in view.

What I *claim* is the distributor described, or its substantial equivalent, operating as set forth, for the purpose of injecting the steam into the water in a thin sheet, as set forth.

No. 21,237.—JOSEPH L. WINSLOW, of Westbrook, Maine, assignor to JAMES N. WINSLOW, of Portland, Maine.—*Improved Steam Cock*.—Patent dated August 17, 1858.—In the engravings A denotes the case of the steam cock, which is formed with a conical or tapering valve chamber B B, furnished with an induction passage C and an eduction passage D, the said passages being arranged with their axes in line with one another, and at right angles to the axes of the plug chamber B.

The inventor says: I do not claim the application of a screw directly to the shank or spindle of a valve in order to support the spindle during its rotary movements, and to move the valve either towards or away from its seat.

But what I *claim* is arranging the operating screws *b c* at the foot of the plug and its case, so as to be capable of being rotated therein, without at the same time having any longitudinal motion.

And I also claim making the spindle F separate from the plug E, and combining with them and the case the bearing shoulder *m* and the clutch connexion, the whole being substantially as described.

No. 21,276.—ROBERT ROSS and WILLIAM HOLLAND, of Philadelphia, Pa.—*Improved Steam Cock*.—Patent dated August 24, 1858.—This invention consists in certain improvements in steam valves. The stem or guide piece *b* screws upon the valve rod *m*¹, and is provided with two wings or guide pieces *x x*, which fit into corresponding recesses in the outer casing or cylinder *v*, so that when the rod *m*¹ is turned on its axis by the crank or wheel *s*, the guide piece or stem *b* moves up or down, carrying the valve with it.

Claim.—1st. The loose valve plug *a*, fitted to the seats *c* and *e* above and below, as set forth.

2d. In combination with the loose valve plug *a* and the shoulder *c*¹ on the stem *b* the nut *d* is claimed, with its plane and concave faces *n n*¹, as described.

3d. The projecting stem passing through the loose valve plug and fixed fast to the guides $x x$, as set forth.

4th. In combination with the valve stem the upper spring valve u , as set forth.

No. 21,332.—ALBERT FULLER, of Cincinnati, Ohio.—*Improved Steam Cock*.—Patent dated August 31, 1858.—This invention consists in having a plug of rubber or other suitable elastic material placed on the valve stem and fitted between a metallic shield on one side and a metallic cap on the other, the cap having a nut bearing against it, and the parts arranged whereby due provision is made to compensate for the wearing of the plug and the casualty of the forcing of the plug through the valve seat by the pressure of the steam effectually guarded against.

Claim.—Placing the elastic plug E on the valve stem D , between the metallic shield g and cap h , the parts being arranged relatively with the valve seat a , substantially as and for the purpose set forth.

No. 19,969.—GEORGE SCOTT, of Philadelphia, Pennsylvania, assignor to SCOTT, TODD & Co., of said Philadelphia.—*Improvement in Steam Generators*.—Patent dated April 13, 1858.—This improved generator is composed of a coiled tube with each end beyond the coil brought into the line of the axis of the coil and mounted in suitable boxes, so that the entire coil may rotate thereon as on journals, and in succession present every part of the circumference of the coil to the direct action of the heat in the furnace below and the flue leading therefrom.

The inventor says: I do not claim broadly the employment of a rotating coil, as that has long since been known and used for various purposes.

But I *claim* the employment of a rotating tubular coil, one end of which is connected with any suitable apparatus for forcing in water, &c., and the other with a suitable vessel to receive the steam generated. In the said coil, when this is combined with a furnace so arranged that, in the rotation, every part of the circumference of the coil will in succession pass over the fire, substantially as and for the purpose specified.

No. 21,788.—FERDINAND CHARLES WARLICH, of Kentish Town, England.—*Improved Steam-Generator*.—Patent dated October 12, 1858.—Patented in England March 9, 1858.—The object of this invention is the modification and removal of several of the causes of steam-boiler explosions, and to obtain a more simple method of producing high pressure steam with great economy.

The inventor says: I do not claim any of the parts separately, nor do I confine myself to the dimensions stated.

Neither do I claim the heating of water in tubes or pipes and then allowing such heated water to pass by jets into a highly heated chamber or vessel, as I am aware that such is not new, as will be seen by reference to George Bennett's English patent, dated August 15, 1843. In the said Bennett's invention, however, the heating of the water was directly effected by the waste steam from the cylinder of the engine,

whereas in my apparatus such is not the case, it being heated in a coil of pipes arranged within a flue space or chamber placed within the steam-generator and made to communicate with the fire-place or box, and with flues disposed against the ends and bottom and top of the generator.

What I *claim* is, the arrangement of the water-heating coil of pipes within flues leading to the fire-place and through or about the steam-generator, as described, when such water-heating pipes terminate in foraminous pipes *m m* extending into the steam-generator, so as to discharge the heated water into it in fine jets, or spray, or mist, as described.

And in combination with the coil containing the flue within the generator, and the flues about the ends and cylindrical outer surface of the generator, I claim the flue space directly beneath the coil flue and arranged within the generator, as described.

I also claim the arrangement of the side flues, the two bottom flues, and single top flue of the generator, in combination with the arrangement of the water-heating pipes extending through the same, and with the coil flue and fire-place, as represented.

No. 22,306.—ROBERT E. ROGERS, of Philadelphia, Pennsylvania.—*Improvement in Steam-Generators*.—Patent dated December 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the arrangement of the coils, constructed as described, the one being concentrically within the other, the annular spaces between the successive coils constituting direct and separate and the only passages and outlets for the products of combustion, the entire lower portion of every coil having fire underneath it, and the whole operating as set forth.

Second. I claim the arrangement of the feed water-pipe and the air-feeding pipe in relation to each other and to the generating coils, whereby I am enabled to introduce the water in graduated quantities into the upper part of the coil and use atmospheric air to force the water over or upon the heated surfaces, as described.

Third. I claim imbedding the lower portion of each of the concentric coils in cast-iron, cast around it to a greater or less height, for the purpose of protecting the coils from high degrees of heat, as set forth.

No. 21,489.—PATRICK DANVERS, of New York, N. Y.—*Improved Steam Hammer*.—Patent dated September 14, 1858.—This improvement consists in the employment, in combination with that kind of steam hammer whose hammer block or ram consists of, or forms part of, a cylinder or ram working on a stationary piston, of an external stationary cylinder which receives a piston on the head of the reciprocating cylinder or ram, and which is furnished with a proper system of valves to admit steam to act above the last named piston, for the purpose of adding the force due to the pressure of steam on the piston to the force due to the fall of the ram by gravitation, and thereby increasing the power of the hammer beside making its operation quicker.

The inventor says: I do not claim the combination of the reciprocating

eating cylinder and stationary piston, as that constitutes what is known as the "Condie Steam Hammer," nor do I claim attaching the hammer to a piston working in a stationary cylinder, as that constitutes "Nasmyth's steam hammer."

But I *claim* the combination with the reciprocating cylinder or ram 3, which constitutes or has attached to it the hammer block and the stationary piston 5, of the piston 4, and the external cylinder 2, provided with a proper system of valves; the whole operating substantially as specified.

No. 21,047.—THOMAS GORDON, of Trenton, New Jersey, assignor to CHARLES H. BULLARD, of Trenton aforesaid.—*Improved Steam-Heating Apparatus*.—Patent dated July 27, 1858.—The nature of this invention consists in certain peculiar constructions and mechanical arrangements of the parts of a steam-heating apparatus. In this improvement the moment the steam begins to fill the radiator, condensation commences, and the water thus produced fills the several water joints; those in the steam pipe constantly overflowing, and through the medium of the pipe *e* supplying the water joint in the dome, which might otherwise become empty, and consequently useless on account of the extreme heat to which it is exposed.

The inventor says: First. I *claim* the application of water-joints to the safety valve and steam pipes, substantially as set forth.

Second. The construction of the throttle valve P, with an inverted cup *i* in a water-joint or case, substantially as described for the purpose set forth.

Third. Connecting the dome D with a steam pipe by a water supply pipe *e*, as and for the purposes specified.

Fourth. Arranging at the bottom of the radiator a caloric valve, substantially as described for the purpose specified.

No. 19,604.—JAMES BLACK, of Philadelphia, Pa., assignor to SCOTT, TODD, TODD & Co., of said Philadelphia.—*Improved Method of Generating Steam in Combination with Atmospheric Air as a Motive Power*.—Patent dated March 9, 1858.—This invention consists in injecting into a heated metallic vessel, of suitable construction, atmospheric air and water commingled, preferring so to inject it that it shall enter the heated vessel in the form of spray.

The inventor says: I do not wish to be understood as making claim broadly to generating a vapor or gas from atmospheric air holding moisture in suspense, as this will not produce the result contemplated by me.

But I *claim* generating a vapor or gas for mechanical purposes by injecting into a suitably heated vessel or generator a mixture of atmospheric air and water in about the proportions specified, and substantially in the manner and for the purpose specified.

No. 20,514.—GEORGE SCHUH, of Madison, Indiana.—*Improved Steam Power Meter*.—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the combination of the one independent

piston *a* working in its cylinder A, and actuated in opposite directions alternately by the steam from opposite ends of the engine cylinder, acting successively on its opposite sides or faces, carriage B, pendulum H, main spring *m*, secondary spring *i*, friction wheel or roller *c* and disk E, arranged for operation together, in the manner and for the purposes set forth.

Second. I also claim driving the disk E in both directions of its travel, by cords T, operated by the engine, whereby a velocity corresponding to the velocity of the piston of the engine is at all times, and throughout both strokes, communicated in a positive and accurate manner to the friction wheel *c*, for the purposes mentioned.

Third. And I further claim providing the driving cords T with compensating springs *z* when said cords and springs are combined for action with the reciprocating disk E, and reciprocating head-block, or its equivalent, of the engine piston rod, essentially as described, to prevent material pause of the disk at the end of each stroke, and irregularity in the action of the disk, by the driving pull on either cord, alternately producing stretch and the relaxing of either cord, when not acting as a driver, for the purpose of securing accuracy in registering, as specified.

No. 21,468.—WILLIAM C. GRIMES, of Philadelphia, Pennsylvania, assignor to DAVID MATTHEW, of said Philadelphia.—*Improved Steam Pressure and Water Indicator*.—Patent dated September 7, 1858.—The nature of this invention consists in the manner of constructing and arranging two or more concentric glasses, so that one or more forms a reservoir for mercury, and a descending column, while one or more of the inner forms a central and rising column, so that the reading scale shall be from the top of the sinking column of the mercury in the outer concentric glass, to the top of the rising column in the inner concentric glass, indicating the fall and rise of water in the boiler and its distance below the water line: thereby indicating the fall and rise of the column of mercury as in a common bent siphon gauge; giving scale of mercury as the specific gravity of the mercury is to that of water in the boiler to the rise and fall of the mercury in the concentric glasses.

The inventor says: I do not claim the mercury cup, containing mercury, nor the glass tube embodied in the leg of the siphon, and showing only the rise and fall of the mercury by single end of the mercury column in single tube, as this has been done before, and I do not wish to be understood as claiming any such device.

But I *claim* constructing and arranging the concentric glass tubes with the connecting pipes, as and for the purpose set forth. Also, the manner of constructing and arranging the connecting pipes with the boiler and the branch or equilibrium pipe between the concentric connecting pipes at the water line of the boiler, as and for the purpose set forth.

No. 20,963.—J. L. SUTTON, of Norristown, Pennsylvania.—*Improved Steam Stove*.—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The new manufacture of steam stove described, to wit: a stove or furnace and boiler, with two or more concentric radiators, around or above said boiler F and furnace, and arranged to receive the air heated by said furnace and boiler, and impart additional heat to it as it ascends around and between them, substantially as described.

No. 21,472.—JOHN W. HOARD, of Providence, Rhode Island, assignor to Himself and G. B. WIGGIN, of said Providence.—*Steam Trap.*—Patent dated September 7, 1858.—This invention consists in a certain combination, with an outer case or chamber A, of a mercury holder, diaphragm, lever, valve, and openings. A shows the outer case, B a rotary valve, C a lever attached to the valve and also to the diaphragm by a rod or bolt, D is the fulcrum to which the lever is attached, E is the bolt or rod connecting the lever with the diaphragm, F is the diaphragm, G is the mercury holder, H is a spring to force the diaphragm back as the mercury cools, I and K is the inlet and outlet.

The inventor says: I make no claim to any of the parts separately.

But I *claim* the combination with the outer case or chamber A, of the valve B, lever O, diaphragm F, mercury holder G, and openings I and C, constructed and operating as described for the purpose set forth.

No. 22,170.—FRANK DOUGLAS, of East Liverpool, Ohio.—*Improved Steam Trap.*—Patent dated November 30, 1858.—This invention consists in a certain mode of applying and arranging two disk valves and the connexions of the same with a float; and it further consists in a guard to protect the said float from the action of steam.

The inventor says: *claim*, 1st. The arrangement within the box A, of the horizontal cylindrical chamber C, the two disk valves E, with their interposed adjustable stem *f*, the levers F F, and connexion of said levers with the float, substantially as set forth.

2d. The spherical float guard H applied to the box A, and in relation to the inlet passages *h h*, substantially as and for the purpose set forth.

No. 19,757.—WILLIAM MORRIS DAVIS, of Philadelphia, Pa.—*Balance Steam Trap.*—Patent dated March 30, 1858.—The steam and water enter through the passage *a a*¹ and is discharged into the top of A. the stem will occupy the upper portion of the chamber. When sufficient water has accumulated in A to overcome the counterpoise E and the friction between the surfaces B and C, the loaded vessel will descend, thereby turning the barrel upon the fixed plug C until the openings *b* and *b*¹ correspond and a passage is opened for the escape of water from A. The water is expelled by the pressure of steam on the surface, through the passage *b b*¹ until a point is reached when the weight E is sufficient to overcome the friction on B C, when the weight will sink the lever end D, which turns the barrel B in an opposite direction, thus closing the passage *b b*¹.

The inventor says: I lay no claim to the various parts separately. Nor do I claim the forcing of the water through a submerged pipe by the pressure of steam upon its surface, thus forming a steam trap.

But I *claim* the construction of a balanced lever through which a passage to discharge the excess of condensation is opened by the weight of such excess, in the manner, or an equivalent manner, to that described.

No. 21,183.—JOSEPH S. BONNEY, of Hanson, Mass., and CHARLES W. WILLARD, of Bridgewater, Mass.—*Improvement in Operating Steam Trip Hammers*.—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim the combination of a bent rocker lever, an actuator and two adjustable cams, applied together and to a valve rod and trip-hammer, as represented in the specifications and drawings of the aforesaid patent.

But what we do *claim* is our improved arrangement and application of the parts, the same consisting not only in having a curved pendulous lever I to extend from the hammer shank, or a projection therefrom, and play through and in the valve rod as described, but in arranging and applying cams O P, and adjustable bearers with respect to the said lever, and to operate together and produce a reciprocating motion of the lever, essentially in the manner and for the purpose as specified.

No. 21,694.—SAMUEL H. YOCUM and JAMES O'BYRNE, of Shelbyville, Ind.—*Steam Water Tank*.—Patent dated October 5, 1858.—To operate steam tank A, apply the hand to crank N, attached to plexus O O, turn toward railroad P, and when at right angles therewith introduce steam through pipe D, which will expel the air from tank A through stop cock M; as soon as the air is driven out sufficiently, turn pipe D again parallel with railroad P by crank N, and plexus O O closes the stop cocks air tight, when the steam immediately condenses, and the vacuum forms and the water rises in pipe B and flows in tank A through holes in valve c.

The inventors say: We *claim*, first, the extension of pipe B above the bottom and inside of tank A, in combination with valve C and gauge U, or their equivalents in the manner and for the purposes set forth.

Second. The flexible pipe D, and stop cock G 2 and M, in combination with the plexus O O, and air tight tank A, as set forth.

No. 21,366.—J. R. ROBINSON and H. S. ROBINSON, of Clinton, Mass.—*Improvement in Valve Cocks*.—Patent dated August 31, 1858. The nature of this invention consists in so improving the round sliding valve that there shall be a straight passage through the valve, valve case, and valve spindle, thereby causing less friction to the water, &c., passing through it, and thus obviating a loss of pressure or head. And moreover of so forming the valve that it will effectually withstand a pressure from either end of the valve case alternately, without moving the valve spindle and also of balancing said spindles.

The inventors say: We *claim*, first, the construction of the valve, whether in one or two pieces, valve spindle, and valve case, in the

manner described, so as to make a straight passage through the valve, spindle, and case, for the reasons specified.

Second. Making the valve in two pieces for the reasons specified.

Third. When the valve is so made, running the springs through the spindle for the reasons specified.

No. 21,510.—J. C. MACDONALD, of Cincinnati, Ohio.—*Improved Valve Cock*.—Patent dated September 14, 1858.—The object of this invention is to dispense with the use of packing around the stem of the valve, and still have the cock perfectly steam and water tight, equally so as if packing were used and applied in the best possible manner to the stem. This invention is applicable to all cocks.

The inventor says: I do not claim the guide g , nor the valve B, nor the screw on the stem F, for the operating said valve, for these were secured to me by Letters Patent previously referred to.

But I *claim* the collar g^1 , on the valve stem F, the guide cap D, spring i , head G, connected with the stem F, by the handle H, and screw cap E, combined and arranged substantially as and for the purpose set forth.

No. 21,524.—ROBERT STEWART, of Elmira, N. Y.—*Combination Steam Valve*.—Patent dated September 14, 1858.—In the construction of this invention A is the outside shell; a the inlet to the valve; b the opening to and from the cylinder; B the screw head or steam packing; C the shaft of the valve; D the crank; c the screw for fastening the crank to the shaft; d the crank handle; e the valve seen through the inlet a , f the inner shell; the dark space shows the interior of the valve.

Claim.—The valve e , with the heads e^{11} , as guides or bearings fitting in chamber g^1 , in combination with the outer chambers g , and steam head B, against which valve e , is pressed up, forming a steam joint operating as a self-adjusting valve, operating as described, and for the purposes set forth.

No. 19,594.—ISAAC VAN DOREN, of Somerville, N. J.—*Valve for Steam Engines*.—Patent dated March 9, 1858.—This invention consists in so constructing a hollow valve C, and arranging it in respect to the steam chest A within it, that the pressure of the steam shall not interfere to any appreciable extent with the free and desired action of the valve.

Claim.—A valve, constructed substantially as described, having the steam-chest in its centre, but such steam-chest so constructed as described that the steam shall not press against the valve; and also having the exhaust chamber between its outer and inner shells, the whole arranged substantially as and for the purposes set forth.

No. 21,579.—THOMAS STEWART, of Philadelphia, Pa.—*Improved Rotary Valve for Steam Engines*.—Patent dated September 21, 1858.—This invention consists in making the disk of a rotary valve with two or more sets of ports or steam-ways therein for the induction and eduction of steam in such a manner as to allow the said

steam being cut off at any required position of the piston in the cylinder without producing any connexion with opposite side of the said piston when the steam is cut "short" off, and in so constructing and operating the cut-off as to cause it to work independently of said valve.

The inventor says: I do not claim generally a rotary valve for the induction and eduction of steam.

Neither do I claim generally mounting an independent cut-off upon the upper side of a valve.

But first, I *claim* making a rotary valve with an independent cut-off applied thereto, constructed, arranged, and operating substantially in the manner set forth.

Second, I claim constructing the said rotary valve with two or more sets of ports or ways therein, as described, for the induction and eduction of the steam, so as to enable me to cut off the said steam at any required part of the stroke without producing any connexion with the opposite side of the piston when the steam is cut off short, as set forth and described.

No. 22,198.—CHARLES J. C. PETERSEN, of Davenport, Iowa.—*Improvement in the Valve Gear of Locomotive Engines*.—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* connecting the eccentric ring, from which the slide-valve is operated, to the spring which rests on the journal box of the axle on which the eccentric plate or cam fitting into said ring is fastened, so that the up and down movement of the axle has no influence on the motion of the slide-valve, the whole being arranged substantially as described.

Also, in combination with the eccentric ring attached to the spring, I claim the arrangement of a cam F in connexion with the rods J and L, and the rocking-piece K, whereby the slide is thrown wide open before the piston has accomplished one-quarter of its stroke, and which rods and rocking-piece are so constructed that the motion of the slide-valve may be reversed by raising the hook *e* from one step of the rocking-piece to the other one, the whole being arranged and constructed substantially as set forth.

No. 21,295.—JAMES FERGUSON, of Bridgewater, Mass., assignor to Himself and LAZELL, PERKINS, & Co., of said Bridgewater.—*Improvement in Valve Gear of Steam Engines*.—Patent dated August 24, 1858.—This invention relates to engines in which a separate induction valve is used for each end of the cylinder, and is more particularly applicable in connexion with valves which open and close by a movement from and toward their seats. It consists in operating each of such induction valves by means of a cam of peculiar form on one of two rock shafts, which are connected with the driving eccentric by tripping mechanism; said cam working in a yoke attached to the stem of the valve.

Claim.—The employment of cams $E E^1$ of the form specified, applied in the manner described, to connect the valve stems with the rock shafts $D D^1$, which receive the tripping motion, for the purposes set forth.

No. 22,191.—EDWARD MORAN, of New York, N. Y.—*Improvement in the Valve Gear of Steam Engines*.—Patent dated November 30, 1858.—The purpose of this invention is to open the valves of engines in the most efficient manner, and in the shortest available time, with any desired motion, and close them in like manner, retaining the mechanical advantage of starting gradually from a state of rest, at whatever may be the velocity of the engine's motion, without a shock in opening and closing the valves.

The inventor says: I *claim* operating the valves by means of a valve-guide D, substantially as described, the arrangements of which are regulated by projecting cams, arranged as described. I also claim the reversing apparatus, as and for the purposes set forth.

I also claim presenting and withdrawing the cams that give motion to the valve-guide, so as to bring the cams into action at the proper time to produce the desired valve-motion, as specified.

No. 22,321.—JOHN L. WHETSTONE, of Cincinnati, Ohio.—*Improvement in Valve Gear of Steam Engines*.—Patent dated December 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, operating the cut-off valve by means of a forked arm or lever O, which is actuated by means of an adjustable radius bar K, which derives its motion from the rock shaft or from the eccentric which operates the main valves of the engine, the whole being arranged substantially as described.

Second. Adjusting the radius bar K by the variations of the speed of the governor, by means of a rotating disk operated by a worm wheel R, said worm wheel being in such relation to the governor that when the governor is running at its right speed, no motion is communicated to the same, but when the governor runs either too fast or too slow the worm wheel is turned in one direction or the other, and the radius bar K is raised or lowered so that the cut-off is effected sooner or later, the whole being arranged and constructed substantially as described.

Third. Operating the throttle and cut-off valve adjustments in combination, in such manner that the throttle valve is moved slowly and is not closed to any considerable extent, while at the same time the cut-off adjustment is moved rapidly, and on the other hand, when the cut-off adjustment is in position for the shortest period of admission of steam, the movements of the throttle valve are the most rapid, the whole being accomplished in the manner substantially as described.

No. 22,333.—WILLIAM STEPHENS, of Old Forge, Pennsylvania, assignor to RICHARD STEPHENS, of said Old Forge.—*Improvement in Slide Valve Gear for Oscillating Engines*.—Patented December 14, 1858.—This invention consists in a certain combination of sliding bars, levers, stops, and rods through whose agency the slide valve is caused to derive the necessary motion to effect the introduction and eduction of steam to and from the cylinder. It further consists in certain means of providing for the adjustment of certain of the aforesaid stops for the purpose of giving the valve more or less lead, as may be desired.

The inventor says: I *claim*, first, the combination of the two independently operating sliding bars I and P and the levers M M¹, the

former sliding bar being connected with the valves rockshaft and furnished with fixed or adjustable stop pieces NN^1 , and the latter being connected by an arm with the cylinder trunnion, and the whole operating substantially as described to produce the motion of the valve or valves.

Second.—Combining the stop-pieces NN^1 with the sliding bar I, by fitting them to slide in slots 6 in the said bar and attaching them to a double slotted wedge SS^1 , applied to the said bar, substantially as described, for the purpose of adjusting or varying the lead of the valve or valves.

No. 22,318.—ELIJAH WARE, of South Boston, Massachusetts.—*Improvement in Slide Valve Gear of Steam Engines*.—Patent dated December 14, 1858.—This invention consists in a certain combination of mechanical devices for effecting the connexion between the slide valve and an eccentric on the crank shaft, whereby a single eccentric, fastened permanently on the shaft, is made to operate one valve to run an engine in either direction, and to give different lengths of stroke and different degrees of lead to the valve, to effect the regulation of the engine; thus performing with one eccentric what in locomotive engines requires, with ordinary valve gear, three eccentrics to each cylinder.

Claim.—The combination of the single eccentric having a short eccentric rod D, the fulcrum plates E G, carrying a fulcrum pin b , having a connexion with the short eccentric rod, the slotted frame H receiving the fulcrum pin and a pin on the eccentric rod and the slotted plate J, receiving a pin e , or its equivalent, attached to a rod connected with the valve, the whole being applied to operate substantially as set forth.

No. 20,768.—JOHN F. ALLEN, of New York, N. Y.—*Improved Valve Gearing for Steam Engines*.—Patent dated June 29, 1858.—This invention consists in a certain arrangement of parts for operating the valve of the rock-shaft B of a steam engine in such a manner as to effect the induction of the steam at the proper time and cut it off at various points in the stroke.

The inventor says: I do not claim the use of a sliding toe, like g , applied to the arm of the valve rock shaft.

But I *claim* the arrangement of the swinging plate or open arm F, with its two pointed swinging piece H, or equivalent, substantially as described, in combination with the single rock shaft B, its arm L, and moveable toe g , to operate the two induction valves as described.

No. 21,433.—STUART B. MCCRAY, of Grand Rapids, Mich.—*Improved Governor-Valve for Steam Engines*.—Patent dated September 7, 1858.—The claim and engraving explains the nature of this invention.

The inventor says: I *claim*, first, having a hollow cylindrical valve B, constructed and arranged to work in suspension over a vertical piston D, so that it does not come in contact with any horizontal surface, nor has any point of binding contact against said vertical piston D, substantially as and for the purposes set forth.

Second. The suspending and working of a hollow cylindrical valve

B, by means of an eccentric or other analogous device L, which said eccentric is so arranged on the shaft of the slotted rocking link that its longest radius is at right angles, or nearly so, with the valve stem H when the valve is closed, and its shortest radius parallel, or nearly so, with the link J of the governor, substantially as and for the purposes set forth.

No. 21,535.—WILLIAM HARDY & JOHN PARKINSON, of Philadelphia, Pa., assigns to Themselves and AARON BATES, of said Philadelphia.—*Improved Pressure and Vacuum Valve*.—Patent dated September 14, 1858.—The nature of this invention consists in combining in one instrument in a manner so that a pressure or safety valve and a vacuum valve, the same to be attached to the steam boilers, vessels for containing malt and other fermented liquors, and to other vessels from which it is necessary to discharge the superfluous steam, or gases generated within, and into which it is required that the air should be admitted to prevent the formation of a vacuum, and in order to facilitate the drawing off of the contents.

Claim.—The valve chamber A, spring valve B, and inner valve E, with their respective openings, and passages when constructed and arranged in respect to each other, as and for the purpose set forth.

No. 20,845.—WILLIAM S. GALE, of New York, N. Y., assignor to Himself, ALFRED VALENTINE and WILLIAM H. BUTTER, of New York, aforesaid.—*Improved Valve Regulator*.—Patent dated July 6, 1858.—The claim and engravings explain the nature of this invention.

Claim.—In combination with the plain diaphragm B, corresponding load piece C, compound lever D E F, and the support A¹, the projections or ridges *c c* on the under surface of the load piece, and the printing of the shape of the same into the diaphragm for the purpose of preventing the slipping of C laterally upon B, as set forth.

No. 19,443.—THOMAS RICHARDS, of Plattsburgh, N. Y.—*Improved Rotary Valve*.—Patent dated February 23, 1858.—In figure 1, A A A are the ports communicating with one end of the cylinder; B B B are passages in connexion with the other end of the cylinder; C C C steam pipe or port for conveying the steam from the boiler to the cylinder D D D, exhaust port which conducts the steam to the atmosphere or condenser. Whenever the valve plate is in such a position as to admit the steam to one end of the cylinder, the other end will always have a communication with the exhaust passages.

Claim.—In combination with a continuously rotating valve plate, having the four cavities E and closed spaces between them, the ports or passages A and B, which communicate respectively with opposite ends of the cylinder and the steam and exhaust ports or passages C D, crossing each other at the centre of the valve, the whole arranged and operating substantially in the manner and for the purpose set forth.

No. 19,570.—WILLIAM H. LOW, of Albany, New York.—*Improved Safety Valve*.—Patent dated March 9, 1858.—The valve seat A has an upper and lower aperture, which are closed by the valve B formed

of the two disks $b b^1$ connected together; the opening $a a$ forms an outlet passage for the steam from the lower aperture to the outer casing. The outer casing C, which covers and encloses the valve and weight, has an opening through its side, through which the weight may be adjusted, and which is closed by the cover D; the perforated plate E is placed between the opening H for the escape pipe. The weight F is made hollow and filled with shot or lead, so as to be easily adjusted to the pressure required. The handle G has an eye at its upper end, which rests upon the top of the casing C; its lower end works freely in the hollow spindle b^{11} of the valve, and is provided with a cross-pin g , which, when the handle is raised, catches in the top of the slotted hole g^1 through the hollow spindle, and thereby lifts the valve from its seat.

The inventor says: I am aware that auxiliary safety valves to be weighted to a given pressure and locked up beyond the interference of the engineer or other party have been used, and I do not claim them broadly; but I *claim*, first, the combination of the "double beat valve" B with the seat A and weight F, when arranged in relation to the passages $a a$, and to each other as described and for the purposes set forth.

Second. The combination of the double beat valve B with the handle G, casing c , pin g , and slotted hole g^1 , as and for the purposes set forth.

No. 21,390.—JAMES H. WINN, of Portage, Wisconsin — *Improved Safety Valve and Pressure Gauge*.—Patent dated August 31, 1858.—This invention consists in a new and simple method of applying and arranging one or more pendulous rods and an index and dial in combination with a piston valve and suitable arrangement of steam passages, whereby the escape of steam from a boiler as soon as it arrives at any desired pressure is provided for, and any pressure of steam below that at which it is desired to escape is correctly indicated by the index on the dial.

Claim.—The weighted pendulous rods and suspended index L applied substantially as described in relation with each other, and with the dial M, and combined with the piston valve by means of a sector I, chain e , and rod d , or their equivalents, to operate substantially as set forth.

No. 21,493.—RICHARD GORNALL, of Baltimore, Maryland.—*Improved Combination of a Governor with a Slide Valve*.—Patent dated September 14, 1858.—This invention consists in the combination of the governor with a slide valve, which is so constructed and arranged that it has its usual back and forward movements, and a movement in a contrary direction from its regular course whenever the speed of the engine gets too high; and when moved in said contrary or transverse direction, it closes up partially, cuts off the feed port, and leaves open the exhaust port at any position of the piston.

This invention also consists in giving the crank-pin by which the rock shaft is operated a flaring or V-shape, in combination with the oblique or bevel ends of the slide valve and the enlarged slot of the

connecting rod, whereby the slide valve, notwithstanding having a contrary or transverse movement, is always caused to work with "lead."

The inventor says: I *claim*, first, the combination in the manner substantially as specified, of the governor with a slide valve, which is constructed, arranged, and operating as specified for the purposes set forth.

Second. Giving the crank-pin F, by which the rock shaft D is operated, a flaring or V-shape, in combination with the oblique or bevel ends *d* of the slide valve and the enlarged slot *c* of the connecting rod I, substantially as and for the purposes set forth.

No. 19,096.—WILLIAM R. MICHNER, of Marlborough, Ohio.—*Improved Steam Valve*.—Patent dated January 12, 1858.—This improved valve is of the circular or disk form, and is operated with a reciprocating circular motion. Its novelty consists in the arrangement of its ports and passages for the induction and eduction of the steam, whereby a large amount of opening is obtained by a small amount of motion.

The inventor says: I do not claim providing a valve with several ports to obtain a large area of opening by a small movement.

Nor do I claim exhausting through the back of a side valve.

But I *claim* the hollow circular or disciform valve, with its hollow stem and two series of ports, all arranged substantially as described.

No. 20,094.—THOMAS SCOTT, of San Francisco, California.—*Improved Steam Valve*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The reciprocating or revolving valve, substantially as described, whereby the steam enters at or near the axial center of the valve, and is thence conveyed obliquely through the valve to the cylinder, the valve and hollow stem united and acting as a rock-shaft or center.

No. 20,423.—HENRY GOULDING, of San Francisco, California.—*Improvement in Steam Valves*.—Patent dated June 1, 1858.—The main object of this machine is to cause a direct and effective blow to be imparted by the drill-cutter or stamper without the sudden shock or jar being transmitted to the machine. By the loose collar F a full and unincumbered blow on the rock is obtained, and the valve is reversed so that the pressure takes the piston K on the rebound, thereby obviating all shock or jar on the machine at that time, as the mass of iron in the piston-rod and drill get the change of direction by the rock upon which it strikes.

Claim.—The loose collar on the piston-rod, for the purpose of changing the valve after the blow is given.

No. 21,151.—GEORGE RIESECK, of Pittsburgh, Pennsylvania.—*Improved Steam Valve*.—Patent dated August 10, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the valve D with a projecting

hollow stem E, which is reduced so that its end presents an area only equal, or nearly so, to the ports F F¹ F² G G¹ G², in combination with a main steam chest or chamber J, and an auxiliary steam chest or casting I, furnished with a stuffing-box d, and constructed so as to cover the whole of the back of the valve excepting the end of the stem or a portion of the back equal or nearly equal to the ports in its face, substantially as and for the purposes set forth.

Second. In combination with the above, the peculiar manner specified of making the face of the valve D with six ports F F¹ F² G G¹ G², three for receiving and three for exhausting; said ports being arranged in such relation to each other that, when the valve is applied to an oscillating engine, one receiving port always stands in line with an exhaust port, and that only four of the ports shall be in use when the engine is working forward, and the extra two thus kept in reserve, so that the engine may be reversed on shifting the valve, by the pressure of steam from a full open port, as set forth.

No. 21,155.—WILLIAM J. STEPHENS, of New York, N. Y.—*Improvement in Steam Valves*.—Patent dated August 10, 1858.—This invention consists in a certain arrangement of a spring and levers for giving a sudden movement to the valves to change the direction of the induction and eduction of steam to and from the steam cylinder, as the piston of the engine answers at the end of the stroke.

Claim.—The inventor says: I do not claim broadly the use of springs to move valves, and I do not confine myself to the application of my invention to a system of valves like those described.

But I *claim* the slotted lever F, the T-shaped lever G, and the spring K, arranged in relation with each other, and with the piston-rod and the valve-stem, to operate substantially as set forth.

No. 21,235.—WILLIAM S. MACKINTOSH and SAMUEL WADSWORTH, of Pittsburgh, Pennsylvania, assignors to CRIDGE, WADSWORTH & Co., of said Pittsburgh.—*Improvement in Steam-Valves*.—Patent dated August 17, 1858.—This invention consists in a novel arrangement of hollow rolling balanced valves, which affords great convenience for adjustment to cut off the steam at such point in the stroke of the engine as may be desired under the average or usual load of the engine and the average or usual pressure of steam, but which is capable of being controlled by a governor in such a manner as to vary the point of cut off to meet variations in the steam pressure or load on the engine, and thereby regulate the velocity of the engine.

Claim.—The described arrangement of three hollow valves B C C¹ with their stems and ports, and the passages in the valve-box, the whole operating substantially in the manner set forth.

No. 19,484.—BENJAMIN CARLEY, of Paterson, New Jersey.—*Improved Eccentric for Operating Steam Valves*.—Patent dated March 2, 1858.—This invention relates to a method of readily giving the proper lead in the act of reversing the motions of the engine and varying the point of cut-off so that by one operation of a simple mechanism, substituted for the ordinary link motion, the valve motion

will receive the required lead by the act of shifting or reversing. The eccentric *b* for operating the valves is mounted in suitable slides *c c c c* on the main shaft *a*, so that it can be moved in a plane at right-angles to the axis of the shaft to increase or decrease the amount of eccentricity, or shifted side to side, either to vary the point of cut-off or to reverse the engine.

The inventor says: I do not claim as my invention the mode described of varying the point of cut off or reversing the engine.

But I *claim*, in combination with the method of shifting, the eccentric, or its equivalents, to vary the point of cut-off or reverse the engine, substantially as described; the so forming the ways or slides, substantially as described, that by the one motion and mechanism the required lead shall be given to the valve motion by the act of shifting the point of cut-off or reversing the engine, as described.

No. 19,203.—JAMES W. OSGOOD, of Columbus, Ohio.—*Improvement in Steam Throttle Valves*.—Patent dated January 26, 1858.—The chamber *E E*¹ is formed in the upper and lower sections of the chest, and the chamber *F* is formed in the lower section *A*. These section chambers are divided by the partition *G* and the perforated valve seat *H*, in which are the steam ports or openings *I*. Directly over the face of the valve seat, so as to cover all the openings, is placed a thin, elastic metallic plate, *J*, of copper or other suitable metal. The back end *J*¹ of the plate is fastened to the valve seat by screws or otherwise, and the front end *J*¹¹ is in a similar manner secured to the rocker valve *K*.

Claim.—The plate *J* and rocker *K*, arranged in connexion with the perforated valve seat *H*, operated substantially as described, for the purpose of increasing or diminishing the area of the steam passages in the valve seat.

No. 20,388.—J. W. HOARD, of Providence, Rhode Island, assignor to Himself and G. B. WIGGIN, of said Providence.—*Improved Steam Trap Valve*.—Patent dated May 25, 1858 —The claim and engravings explain the nature of this invention.

Claim.—The construction of the valve *C*, substantially as described, with a metallic stem *D*, part of which is hollow and communicates with the hollow interior of the valve, and is fitted with a hollow cap *G*, which also serves as a nut to secure the valve against longitudinal expansion, whereby provision is made for filling it with liquid, and confining such liquid therein.

No. 19,933.—TRUCKSON S. LA FRANCE, of Elmira, New York.—*Improved Throttle Valve*.—Patent dated April 13, 1858.—*A* is a spherical chamber, containing the valve *B*. It is divided by the partition *C C* into two compartments, *D* and *E*, one for the admission of steam to the valve, and the other for the passage of the steam from the valve ports to the steam chest. The latter is annular and surrounds the valve seat, as seen at *E E*. The valve is in the form of a hollow frustum, being supported on its axis *F* by four arms, or partitions *b*, which serve to strengthen against any unequal pressure it may receive.

The inventor says: I am aware that hollow conical valves have before been used, and such alone I do not claim.

Nor do I claim the employment of recesses formed in the periphery for the admission of steam, for the purpose of balancing the valve when at rest, as such arrangement does not produce the effect claimed for my invention.

But I *claim* the series of chambers *d d* in the valve seat, in combination with corresponding chambers or passages in the valve shell B, and the bracing and binding partitions *b b*, the whole arranged and operating substantially as set forth.

No. 19,119.—EDWARD D. BARRETT, of Cincinnati, Ohio.—*Arrangement of Valves and Passages in the Cylinders of Steam Engines*.—Patent dated January 19, 1858.—The valve proper, which closes the ports *e* or *e'*, consists of a cup-formed piece, I, having a cap, J, pierced by a stem, K, which is retained within the cap by a foot, L.

The tapet rocker arm, slide valves, and piston are so arranged relatively to each other, and to the steam and exhaust passages, that the instant the main piston P has passed the side passage D, at the then exhaust end of the cylinder, the small slide valve *b* is drawn back by the rocker arm to the position shown in the engravings, which, by reversing the steam in the small cylinder, shoots the main slide valve B to the position shown in the engravings.

Claim.—The arrangement of check valves I I¹ and passages E E¹, in relation to the passages D D¹ and the main valve, substantially as set forth.

No. 21,813.—BENJAMIN BUNCE, of New York, N. Y.—*Improvement in Cut-Off Valves for Steam Engines*.—Patent dated October 19, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Combining with a slide valve of ordinary character a cut-off valve, constructed substantially as described; that is to say, the slotted tube secured in a fixed position upon the slide, said tube having its ends so closed that the steam shall pass to the valve through the slots, and having also upon it a cylinder slotted in like manner, capable of being revolved thereon, so that the opening and closing of the slotted passages shall be effected by the action of the slide valve itself in carrying the cut-off to and from the stops set to intercept the revolving cylinder, as set forth.

No. 21,300.—JOHN JACKMAN, of Newburyport, Massachusetts, assignor to Himself and E. A. ASHCROFT, of Boston, Massachusetts.—*Improvement in Cut-off Valves of Steam Engines*.—Patent dated August 24, 1858.—The inventor says: My invention is more properly applicable to that described in No. 6,162 of United States patents, and is intended to accomplish the same, or a somewhat similar, result, which the reversed inclined plane S (as described in the patent of the United States numbered 14,545) effects, when used in connexion with the main inclined plane of the regulator and valve mechanism; it, however, remedies an important defect, or certain difficulties incident

to the employment of two inclined planes standing in reverse of one another and acting as described in said patent numbered 14,545.

In naming his claim the inventor says: I do not claim the devices or mechanism covered by the patents herein before mentioned, but what I *claim* is my improvement, or the combination of the levers S and T and the collar U, as arranged and applied to the rod R of the ball governor, and to the slide rod A of the inclined plane C, substantially in manner as herein before specified.

No. 21,682.—JOSEPH JOBIN, of St. Mandi, near Paris, France.—*Improvement in Valves for Steam Engines*.—Patent dated October 5, 1858.—The general principle of this invention consists in giving to the valve a prismatic shape, being in its cross section of either of the forms shown in the engravings, and enclosing said valve in a case which serves as a guide to it in its reciprocating travel.

Claim.—The sliding balance valve, constructed as described, of a prismatic or partly prismatic form, and guided in its reciprocating travel by and within a steam chest open or closed at its ends, but surrounding in a close manner the sides of said valve, substantially as and for the purposes set forth.

No. 21,668.—P. W. GATES, D. R. FRASER, AND THOMAS CHALMERS, of Chicago, Ill.—*Improvement in Gearing of Cut-off Valves for Steam Engines*.—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Working the cut-off valves D D, in combination with a main slide valve C, or separate main slide valves of the character described, by means of the palls $k k^1$, to lock the cut-off valves with the main valve or valves in an open condition, the variable or adjustable slides $p p^1$, to disengage the said palls, the stops 3 3, to stop the said cut-off valves in a closed condition after their liberation, and stops $y y^1$, to stop and open them by the completion of the stroke of the main valve or valves, the whole operating substantially as described.

No. 19,640.—THOMAS S. JAMIESON, of Alexandria, Va.—*Improved Mode of Operating Valves in Steam Engines*.—Patent dated March 16, 1858.—This invention consists in the arrangement of the parts by which the valves are operated, so that the steam may be cut off at any desired point in the stroke of the engine, said parts being actuated by the governor, but so arranged as not to affect the governor k , except at the moment of tripping the valves, and then only in a very small degree.

Claim.—In combination with the sliding bar G and its several appliances, as described, operated directly from the engine, the swinging dogs H H, which are moved and adjusted by the governor, substantially as described, and for the purpose of tripping the valves at any desired stroke of the engine.

No. 22,192.—ALDEN R. MORRILL, of Northfield, Vt.—*Improvement in Valves of Steam Engines*.—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: What I *claim* is my improved construction and arrangement of the valve case, its induction and eduction parts in reference to the steam chest, and the double-headed piston, made in manner, and to operate within such valve case, substantially as described.

I also claim when the valve case is made tubular and open at both ends as described, making it separate from the steam chest, and so as to rest on the bottom of the latter and confining it therein by means of screw bolts S S, extending through the top plate of the steam chest, and make it to rest on the said valve case, essentially as described.

I do not claim the application of safety valves within a steam chest, and to a covering plate and slide valve, in manner as shown in the patent No. 11,607; that is, so that the steam, in order to move the safety valves, has to pass through the slide valve.

But I claim my improved arrangement of the safety valves and their conducting passages, with reference to the double-headed or slide valve, in which arrangement the steam in passing to the safety valves, in order to raise them, does not pass through the double-headed piston, or slide valve, but through passages *x x*, arranged on the opposite sides thereof, as described.

No. 22,322.—H. D. WICKES, of Flint, Mich.—*Improvement in Valves of Steam Engines*.—Patent dated December 14, 1858.—The nature of this invention consists in the combination of a peculiarly constructed and suspended segment, or convex valve, with a peculiarly constructed valve seat, whereby a steam chest is dispensed with; or, in other words, the valve and seat are rendered capable of fulfilling the offices of a steam chest, and consequently the construction of the engine is simplified and the steam is made to act on the valve in such a way that all unnecessary pressure of the valve upon the seat is obviated.

Claim.—The valve B, having the ports and cavities *f f*¹ *h c*, and suspended between screws *j j*, in combination with valve seat *a a*, having the cavity or port *b*, substantially as and for the purposes set forth.

No. 22,320.—NORMAN W. WHEELER, of Brooklyn, N. Y.—*Improved Apparatus for operating Valves of Steam Engines*.—Patent dated December 14, 1858.—The eccentric E is set upon the main shaft with its throw quite, or nearly at right angles with the crank Q, and gives the absolute throw to the main valve, through and by means of G H and I, carrying with it the rock shaft 3 and arm K. But the riding cut-off valve U derives its motion solely from the eccentric E through F G H *n m* and *o*.

Claim.—Actuating the cut-off valves of steam engines by means of an eccentric, or its equivalent, when the motion of the main valve is derived from the same eccentric or its equivalent, but modified by a movement derived directly from a reciprocating part, substantially as described.

No. 22,164.—J. M. COLMAN, of Milwaukie, Wis.—*Improvement in Cut-off Valves of Steam Engines*.—Patent dated November 30, 1858.—

This invention consists in the employment of flap-valves combined with sliding induction-valves for the purpose of cutting off steam suddenly from said induction-valves at such point in the stroke of the engine as may be determined by a governor, or by any suitable adjustable contrivance whereby the former are capable of cutting off steam from the slide-valves suddenly at such point of the stroke of the engine as may be determined by a governor, or by other adjustable contrivances.

Claim.—The arrangement and combination of the flap-valves $C C^1$, valves $B B^1$, jointed toes $h h^1$, rods $i i^1$, levers $k k^1$, and governor G , as and for the purposes shown and described.

No. 21,455.—H. UHRY and H. A. LUTTGENS, of Paterson, N. J.—*Improvement in operating Valves of Steam Engines.*—Patent dated September 7, 1858.—The nature of this invention consists in operating a single slide-valve by one cam and two eccentrics, which are connected to a link and differential rocker.

The inventors say: We do not claim the connection of the differential rocker G with the link motion or substitute, as this device is secured by us in a patent dated March 20, 1855.

But we *claim* the cam B^4 or equivalent in combination with the valve gear, adopted to operate a single slide-valve, substantially as described.

VII.—NAVIGATION.

No. 19,659.—WILLIAM WILLIAMS, of St. Louis, Missouri.—*Improved Anchor.*—Patent dated March 16, 1858.—This invention consists in the peculiar construction of the anchor, whereby two flukes are made to penetrate the mud or earth at the same time, and the flukes retained in the mud or earth so that they will not be liable to drag or be hauled out and along on the mud or earth by the pull of the vessel; the cable, also, by this improvement is prevented from “fouling” the anchor.

Claim.—The application of the separate block D to the lower end of the anchor shank and of hinging the flukes in the said block, substantially in the manner described for the purpose specified.

No. 19,638.—JOSEPH HUMPHRIES, of Washington, D. C.—*Combined Floating Anchor and Life Preserver.*—Patent dated March 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the floating drag or anchor, composed of three parts $C B A$, hinged together, two of which parts are of solid wood, the other part containing receptacles for water and bread when said drag is used as a life-preserver, substantially as described.

Second. The arrangement of the bridle f with the device g for de-

taching the weight when used in the manner and for the purpose as described.

No. 21,298.—H. W. HARKNESS, of Bristol, Connecticut, assignor to Himself and JEREMY W. BLISS, of Hartford, Connecticut.—*Improved Anchor Ball*.—Patent dated August 24, 1858.—The nature of this improvement consists in constructing a ball with flukes having a line attached to a staple in one end in such a manner that, as it is placed in the muzzle of a gun, the flukes will be compressed into the grooves flush with the outer surface of the ball, and be thrown from a wreck and afford means of escape to persons on board.

Claim.—As a new article of manufacture an anchor ball A, with flukes C, springs D, grooves B, staple F, substantially in the manner and for the purpose as described.

No. 22,432.—OBED HUSSEY, of Baltimore, Maryland.—*Improved Spring Tackle Block*.—Patent dated December 28, 1858.—A is the block; B is the spring made of India rubber; C is the iron strap, enclosing the block and spring; D is a plate across the head of the block making part of the strap, connected with the other part by screws and nuts at *a* and *b* for the convenience of taking apart and putting together; E is the eye to connect the block with the boom, the deck or other point of attachment; F is a pin attached to one end of the block and passing through the spring with the other end extending through an aperture in the seat of the strap; this pin is to secure the spring in its place; *e e* are plates fastened to the sides of the block, with projections that embrace the strap, to keep the block and strap in the proper relative positions, and to allow the block to slide within the strap during the compression and expansion of the spring.

Claim.—A block having a yielding seat, substantially as set forth.

No. 22,154.—WILLIAM B. BARNARD, of Waterbury, Connecticut.—*Improved Tackle Block*.—Patent dated November 30, 1858.—The claim and engraving explain the nature of this invention.

Claim.—A tackle block having its bushing B, secured and adjusted to the pulley A by means of a nut *c*, as shown and described.

No. 21,602.—GEORGE FOCHT, of Reading, Pennsylvania.—*Improved Attachment for Tackle Blocks*.—Patent dated September 28, 1858.—The nature of this invention consists in a tackle block so constructed and combined with a shank, that the block will always be in the most desirable relative position with the rope passing around the pulley.

Claim.—Attaching a tackle block that it may turn freely in all directions and be retained in the proper relative position with the rope, when the strain on the rope ceases, in the manner substantially as described.

No. 20,944.—JAMES E. GIBSON, of Port Carbon, Pennsylvania.—*Improved Canal Boat*.—Patent dated July 20, 1858.—The nature of

This invention consists in constructing a canal boat in two parts, when each of said parts has a bow and keel and both so arranged and coupled together that each shall have an up and down movement independently of each other, and thus when the bow A portion is not weighted it shall be capable of rising without affecting the stern B portion, and when it has risen to its full extent, it, and the stern portion, shall rest upon the water with even keels, the keel of one being below the keel of the other, and the stern portion serving as a ballast to the bow portion.

Claim.—In combination with canal boats made in two parts, so coupling the parts together that each shall have an up and down movement independently of one another, substantially as and for the purposes set forth.

No. 21,572.—JOHN McCausland, of Kingston, N. Y., JEFFERSON McCausland and JAMES McCausland, of Esopus, N. Y.—*Improved Canal Boat.*—Patent dated September 21, 1858.—The following improvements, found in the claim in connexion with the engravings, give an idea of the nature of this invention.

The inventors say: What we *claim* in the construction of canal boats and other flat-bottomed and vertical-sided vessels is, first. Interposing the bilge timbers between the floor timbers and the side timbers, substantially as and for the purposes set forth.

Second. Beveling the edge of the bilge timbers and forming a face on either side of the bevelled face for the fitting on of the bilge plank in a gradually rounding line, as described.

Third. The second dovetail in the side timbers, with the chock between the dovetailed faces and the bilge timber, as an arrangement of means for adding strength to the vessel, as set forth.

No. 19,317.—NATHAN THOMPSON, jr., of Brooklyn, N. Y.—*Improvement in Collapsible Boats.*—Patent dated February 9, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

Claim.—I claim a sectional, collapsible boat, made up of eight or more sections hinged together and constituting a boat similar in appearance to an ordinary small boat, the whole constructed substantially in the manner described.

No. 21,979.—CHARLES PERLEY, of New York, N. Y.—*Improved Tripping Blocks for Boat Davits.*—Patent dated November 2, 1858.—The nature of this invention consists in a block, or its equivalent, attached to the rope or chain which sustains or regulates the movements of the boat or other article, and provided with a lug that receives a link on the article to be sustained, or on a rope or chain connected thereto; said block is provided with a drop so fitted that the link, or its equivalent, is sustained in the said block, and when said drop is raised by a very slight pull, the block will be effectually and instantly disconnected from the link or article attached thereto.

Claim.—The tripping or disconnecting block, constructed substan-

tially as specified and applied to davit blocks for boats or to other purposes, as set forth.

No. 19,693.—JOSEPH FRANCIS, of New York, N. Y.—*Improvement in Metallic Boats*.—Patent dated March 23, 1858.—The nature of this invention consists in a peculiar corrugation composed of a series of plane surfaces *e f g*, united by a curved or quarter circle corrugation *e*¹, in such a manner that the metallic boats formed therewith are very strong and rigid, and are adapted to the most severe service.

The inventor says: I *claim* preparing sheets or plates of metal for forming boats for corrugations composed of a series of flat or nearly flat surfaces united by a curved or nearly quarter circle corrugation, substantially as and for the purposes specified.

I also claim the manner specified of varying the size and proportions of corrugated metallic boats made from sheets pressed in one size of die by forming the corrugations near the centre parallel or nearly so, and increasing or decreasing the number of central plates, formed with such corrugations, substantially as and for the purposes specified.

No. 19,656.—GEORGE W. SWARTZ, of Buffalo, N. Y.—*Improved Canal Boat Propeller*.—Patent dated March 16, 1858.—The nature of this invention consists in, first: The combination of a guard A, with a recess or conduit D D in the stern of the boat, for the purpose of protecting the propeller, and obtaining for it the most advantageous location to accomplish the purposes required.

Second. In the arrangement of braces I, within the guard A, for the purpose of forming a support and bearing for the propeller shaft, and giving strength to the guard.

Third. An improvement in the form of the recess or conduit in which the propeller is placed.

The inventor says: I do not claim a propeller guard broadly considered. But I *claim* the guard A when arranged with a recess or chute, D D, &c., for the purposes substantially as set forth.

I also claim the braces I, for the purposes of strengthening the guard and supporting the propeller shaft, substantially as described.

No. 19,666.—HENRY DE VEUVE, of Galveston, Texas.—*Arrangement of Devices for lowering and detaching Boats*.—Patent dated March 16, 1858.—The grapple hooks are placed round the neck of the bolts C C, and held by means of a shackle which is slipped down upon the lower jaws of the grapple hooks. The boat being filled with passengers, the tackle is operated and the boat swung out and lowered as usual. As long as the boat is suspended above the water the grapple hooks retain firm hold upon the bolts *c c*; as soon as the boat floats, and the shackle is thrown up off the jaws the weight thereby is removed, the springs become the greater power, and they will force apart the jaws of the grapple hooks and cause them to release their hold upon the bolts D D, and thus free the boat.

Claim.—The peculiar arrangement, consisting of the chains or braces, B B B, central broad-headed bolt, C, the grapple hook, D,

with the lowering tackle of a ship, substantially as and for the purposes set forth.

No. 21,201.—ANSON JUDSON, of Unadilla, N. Y.—*Improved Construction of Canal Boats*.—Patent dated August 17, 1858.—A is a square tube extending longitudinally from stem to stern; F is a cope formed by the extension of the top of the tube, as indicated by the dotted line G, to aid in concentrating the water in its ingress and egress to and from said tube and prevent the escape of the water from said tube by the action of the wheel.

The inventor says: I do not claim the tube for the ingress and egress of the water through said boat as motive or propelling power, or the use of the wheel as described to force the water through said tube.

But I *claim* the wide openings in the bow and stern of the boat, extending to or near the full width of the boat, and as low as the bottom, substantially as and for the purposes set forth.

No. 20,308.—NATHAN THOMPSON, Jr., of Brooklyn, E. D., N. Y.—*Improved Moulding Frame for the Construction of Boats*.—Patent dated May 18, 1858.—This invention consists in a suitable frame constructed of any proper material in such a manner as to be capable of supporting and retaining, in proper relative position to each other, the same that they occupy in a finished boat, the gunwale ribs *b b b*, keel, stem, and stern posts; and in mounting such a frame upon supports that admit of the frame being easily replaced and retained in various positions proper for the operation of the workmen, and also in providing the frame with proper means for the purpose of removing the boat when finished.

The inventor says: I *claim* a frame substantially as described, capable of supporting and confining, in proper relative position, the various parts that make up the frame of a boat substantially in the manner specified.

And in combination with such a frame, I claim means substantially such as specified, for holding the frame in proper necessary positions, and admitting of an easy change from one position to another.

And also in combination with such a frame, lifting screws passing through the gunwale frame, substantially in the manner and for the purpose described.

No. 19,346.—HERMAN CAMP, of Dunkirk, New York.—*Improvements in Propelling Canal Boats*.—Patent dated February 16, 1858.—The nature of this invention relates to propelling canal boats by a wheel running on the bottom of the canal, the arrangement and location of the wheel D and its supporting frame C C, near the centre of the boat. The frame and wheel have a vertical movement sufficient to allow the wheel to roll on the bottom, notwithstanding the irregularities thereof, or the varying depth of water, and which also may be raised within the boat when meeting obstructions or passing locks.

The inventor says: I do not confine myself to the precise construction, proportions, or arrangement set forth, but include all modifica-

tions thereof as shall be best adapted to secure the desired object by means substantially the same.

First. I claim the arrangement and location of the propelling wheel D, and its supporting frame C C, at or near the centre of the boat, for the purposes and substantially as set forth.

Second. I claim supporting the engine upon the vertically-moving frame C C, for the purposes substantially as described.

Third. I claim the combination of the flexible steam pipe G, with the stationary boiler H, and the vertically moving engine E, for the purposes and substantially as set forth.

No. 19,403.—WILLIAM H. BRIDGE, of Boston, Mass.—*Improved Cable Stoppers*.—Patent dated February 23, 1858.—When it is desired to let go the anchor, the clasp *f* is knocked back from its hold on the arm *e*, when the claw immediately opens and the chain runs out without obstruction.

Claim.—The cable tongs, with the levers, prongs, and clasp, constructed and arranged substantially as set forth and described.

No. 21,135.—PETER H. JACKSON, of New York, N. Y.—*Improved Cable Stopper*.—Patent dated August 10, 1858.—In this invention is used the double cam levers *g*, attached at 2 2 to the flanges *f*, and united to each other at the handle 5. The shape and position of these cam levers are such that the cam-shaped sides 3 3 of the pall *e* come in contact with the cam parts 4 4 of the levers near the fulcrums 2 2, so that the power exerted to start the pall *e* is great, but as said pall rises the levers come in contact therewith nearer to the hinge 1, increasing the speed of movement in the pall, but lessening the leverage, and said pall assumes the position shown by dotted lines, when it can either be thrown over on the flanges *f*, or allowed to descend again and take the chain.

The inventor says: I do not claim a hinged chain stopper, as this has before been used.

I claim the combination of the cam lever or levers *g* with the hinged pall *e*, in the manner and for the purposes substantially as specified.

No. 19,131.—JOHN E. CRANE, of Lowell, Mass.—*Improvement in Chain-Cable Stoppers*.—Patent dated January 19, 1858.—This invention consists in placing a pawl between suitable cheek plates which have segment ledges or projections on their inner sides; said projections are directly behind shoulders near the outer ends of the pawl, and are set eccentric to the axis of the pawl and serve as stays to prevent by their eccentricity the pressure brought against the pawl by the chain from bearing or acting upon the pin on which the pawl is hung. The bed plate underneath the pawl being grooved as usual, so that the links of the chain or cable will be retained in proper position while passing over the bed-plate, every alternate link being upright and the intermediate ones in a horizontal position while passing over the bed.

The inventor says: I do not claim, separately the pawl E¹, nor the grooved bed-plate B, for they have been previously used.

But I claim the combination of the pawl E¹, eccentric segment ledges

or projections *d d* on the inner sides of the cheek plates *A A*, and the grooved bed-plate *B*, arranged substantially as shown for the purpose specified.

No. 21,296.—WILLIAM H. GRAY, of Dover, N. H., assignor to Himself and ALBERT G. BROWN, of Salem, Mass.—*Improved Chain Stopper*.—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The improvement in chain stoppers herein described, which consists in hanging the but of the pawl *e e* on bossings *d d* cast on the inside of two supporting standards or cars *c c*, in combination with the shoulders *h h* on said pawl bearing against said standards as described, the whole being arranged and operating as specified.

No. 19,785.—BENJAMIN MAILLEFERT, of Astoria, N. Y.—*Improvement in Diving Bells*.—Patent dated March 30, 1858.—The object of this invention is to establish a communication between the interior of a diving bell and the surface of the water, so that the divers may be permitted to come out of the bell and above the surface of the water without raising. This invention consists in the combination with the bell of an air reservoir *C* for the purpose of facilitating the moving of the machine.

Claim.—The combination of the reservoir *C* with the bell *A* and tube *B*, as and for the purposes set forth.

No. 19,949.—ALONZO C. RAND & RUFUS P. JOHNSON, of Buffalo, N. Y.—*Improvement in Fog Bells*.—Patent dated April 13, 1858.—The nature of this invention relates to the arrangement of mechanism so that the hammer may strike the bell any given number of blows to indicate the particular course of the vessel; the mechanism which determines the number and timing of the blows being distinct from the mechanism which produces the blows.

Claim.—The arrangement of mechanism No. 1 and mechanism No. 2, (or their equivalents,) relating to each other for the purposes substantially as set forth.

No. 19,516.—THOMAS SHEEHAN, of Dunkirk, N. Y.—*Improvement in Sub-Marine Grapples*.—Patent dated March 2, 1858.—The object of this invention is to produce an implement over which the operator may have perfect control, the jaws being allowed to be distended to a greater or less degree as may be desired, and also permitted to close forcibly or gradually at any depth the implement is capable of being used.

The inventor says: I am aware that jaws have been previously applied to springs, and various plans have been devised for retaining the jaws in a distended state and liberating them when desired; and I therefore do not claim broadly, such device, irrespective of the peculiar means employed as shown.

But I *claim* the employment or use of the segment rack *M* and pawl *h*, applied to the levers *D D* of the jaws, and actuated by means of the levers *K I* and cords or chains *J H L*, substantially as and for the purpose set forth.

No. 21,949.—GEORGE DOYLE, of Provincetown, Mass.—*Improved Harpoon*.—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, attaching the shank of the harpoon to the head, so that when the latter turns in the fish, the flat side instead of the edge shall be presented to the resisting body substantially as described.

Second. The slots 3 and 4, and lip 6, operating substantially as set forth and for the object specified.

No. 19,363.—H. W. HARKNESS, of Bristol, Conn.—*Improved Harpoon and Lance*.—Patent dated February 16, 1858.—The barbed spears A A, are attached to the thimble B; C is the lance attached to D which is made to slide free and easy through the thimble B, it is held in its position by the lever G and spring H. The lever G is secured to one side of the thimble B, and its catch takes hold upon the collar E on the lance rod D. The end of the rope J is made fast in the thimble B opposite to the lever G, passing around the pulley E, thence through the guide L L, around the small pulley K, thence back through guides L L to the coil in the boat.

The inventor says: I am aware that other devices designed to accomplish similar results have been made.

But I *claim* the arrangement of the barbed spears A A, lance C, rod D, lever G, line J, substantially in the manner and for the purpose as described.

No. 21,278.—NATHAN SCHOLFIELD, of Norwich, Conn.—*Improvement in Harpoon Lance*.—Patent dated August 24, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, first, the several modes described of applying the sliding and extension cases E and F either with or without spurs Q, on the anterior part of a cylindric projectile, so as to extend either wholly or partially without the bore of the gun before its discharge, and while the projectile is in its proper position therein.

Second. Attaching a ring or collar holding the line to be fired from a gun to the rear end of a sliding case F, with or without spurs Q, and on which a portion of the said line may be coiled, if desired, preparatory to its being projected substantially as described.

Third. Connecting a lance head and shank of a harpoon lance to be fired from a gun to a cylindrical shell, by a sliding socket joint J, so that when forced in or in place, the joint shall remain rigid and inactive; but when drawn or forced out, it shall be susceptible of flexibility by turning on its point.

No. 21,879.—JOHN R. HENSHAW, of Middletown, Conn.—*Improved Self Mousing Hook*.—Patent dated October 26, 1858.—A is a hook constructed of metal having an eye *a* at one end. The front or end *b* of the hook is made oblique, forming an angle of about 45° with the sides thereof, and a groove *c* is made centrally in and across the face of the end *b*. At the end of the shank *d* of the hook, adjoining the eye *a*, a socket *e* is formed by having an ear *f* made at each side of the

shank *d*, and within the socket *e*, one end of the bar *g* is pivoted, as shown at *h*.

Claim.—An improved article of manufacture, a self mousing hook, having a socket *e* and ear *f* and a horizontal spring *k*; the whole made as shown and described.

No. 20,072.—FRANCIS D. LEE, of Charleston, South Carolina.—*Improvements in the Life and Treasure Buoy.*—Patent dated April 27, 1858.—This improvement consists in a certain arrangement of the valves for the escape of water and of the mechanism for operating them, and of an air valve to admit air above the surface of the water in the tank to cause the free and rapid expulsion of the water when the escape valves are opened, whereby all the valves are operated in a convenient manner from the upper deck of the ship or vessel on which the tank is employed.

Claim.—The arrangement of the escape valves *M M*, rods *V V*, chain *U*, windlass *G*, and the air valve *H*, and screw *F* on the windlass shaft, to operate in the manner set forth.

No. 22,258.—JAMES P. MCLEAN, of New York, New York.—*Improved Life Berth for Vessels.*—Patent dated December 7, 1858.—*B* is a perspective of the life berth, having the air and water tight canvas joints removed in order to exhibit the operation of the movable bed *c* in the grooves *G G*¹ *G*² *G*³. The hatch of locker *F* and signal hatch *D*, have also been removed in order to show the manner of stowing the oars and signal rods, also showing the mode of securing the adjustable bed *c* at either extreme upward or lower points *P* or *P*¹, by means of a pin or pins passing through the bulk heads, or cross timbers at each end of the adjustable bed *c*. *B*¹ represents a perspective view of the lower berth secured to the stanchions by means of two keys *I I*¹, which are attached to and secured by a cord to the end of the stanchion as seen at *v*. *E* is a water proof canvas joint firmly secured to the top and bottom edges of the sides and end lockers of the berths by means of hydraulic glue and copper nails, or any other suitable means.

Claim.—The arrangement of the removable bed or bottom *c c*¹, canvas joints *E E*, lockers *F F*¹, oar and signal compartment *D*, air tubes, and the projections, grooves, and plates *G G*¹ *G*² *G*³, combined and operated in the manner and for the purpose substantially as described and shown.

No. 19,977.—LEVERETT BALL, of Auburn, New York.—*Improved Life-Boat.*—Patent dated April 20, 1858.—This invention consists of a life-boat made very light and provided with doors covering the greater portion of the roof or top of the boat, and capable of being opened or closed at pleasure, so that a large number of passengers may occupy the boat, and by their added weight prevent the possibility of capsizing, whilst ingress of water is effectually prevented during the launching or any other like emergency by closing the doors.

Claim.—The combination of the described doors with the life-boat,

for the purpose of preserving the lives of shipwrecked passengers, substantially as set forth.

No. 20,374.—ALBERT L. SHEARS, of Omro, Wisconsin.—*Improved Life-Boat*.—Patent dated May 25, 1858.—This invention consists in the arrangement of the double sides forming air chambers on a line with the upper sections, and being open at the bottom for the purpose of buoying and sustaining the boat and protecting the scuppers and valves from the force of the sea.

Claim.—The arrangement of the sides L L, as constructed with the hull proper of the boat forming the air chambers $a^1 a^1$, and being open below, and these sides and air chambers combined and arranged with the scuppers and valves, in the manner and for the purpose set forth.

No. 21,462.—JABEZ M. WOODWARD, of New York, N. Y.—*Improved Life-Boat Constructed of Mattresses*.—Patent dated September 7, 1858.—The object of this invention is to provide a safe and reliable means for preserving life in case of the sinking of a vessel, independent of the ordinary boats and life-boats, and which means can be used and applied without encumbering the vessel or adding to the ordinary expense of fitting out.

The inventor says: I *claim*, first, constructing the mattresses with the strong canvas or duck attached to them with the eyelet holes, so that they can be united at their edges by lashing, for the purpose of making a boat or life-raft, as described.

Second. I claim the manner of constructing the berth bottoms or supports into frames in the shape of or similar to right-angled triangles, in combination with the mattresses, constructed as described.

Third. The combination of the mattresses, canvas, and eyelets, with the lashings, diaphragm frames, and spar, arranged into the form of a boat or life-raft, as described.

No. 21,570.—CHARLES LEGROS, of New York, N. Y.—*Improved Expandable Floats for Life-Boats*.—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Constructing the outer sides or side surfaces of the floats of some non-corrosive metal, while the top and unexplored surfaces are formed of rubber or other air-proof flexible material, substantially as and for the purposes set forth.

No. 21,776.—HIRAM PALMER, of Augusta, Mich.—*Improved Life-Preserver*.—Patent dated October 12, 1858.—By turning the crank c the propeller is set in motion, and thus motion is given to the preserver. F is a seat upon which the operator sits, and a a a a straps which secure the seat to the frame A A. b b b b are straps which pass over the operator, when seated, and secure him firmly in his seat, so that he cannot be removed by the violence of the waves. H and I I represent a suit of india rubber clothes which the operator may use, and thus prevent his becoming wet and benumbed with cold sea water.

Claim.—The arrangement of the folding frame A, the metal chambers B B, the provision chamber D within said chambers B B,

the flexible air chambers C C, and the propeller E, the whole being combined and operated in the manner and for the purpose specified.

No. 19,989.—CHARLES FRENCH, of Jersey City, New Jersey.—*Improved Life-Preserving Bucket Shaft*.—Patent dated April 20, 1858.—The buckets A A are provided with a grummet around their lower part, so that when a number of the buckets are pushed one into the other they form a raft or life-preserver, on account of the air enclosed in the air-tight space between each bucket.

The inventor says: I do not claim the construction of buckets with air chambers in them to make them serve as floats or life-preservers.

But I *claim* furnishing buckets with encircling gaskets or grummets *d d*, or their equivalents, applied substantially as described, so that two or more of such buckets may be combined to constitute a float or raft, as set forth.

No. 19,618.—BENJAMIN BURLING, of Buffalo, N. Y.—*Improved Life-Preserving Buoy*.—Patent dated March 16, 1858.—This buoy is intended to be well supplied with fresh water and provisioned, and will sustain six or more persons inside for several weeks. The signal flag M³ is kept up at mast head M through the day, and the lamp M¹ at night. It may be suspended by means of the hawser K to the davits, and thus be ready at all times to be lowered into the water. The great depth of the buoy below the surface of the water, and the ballast therein, will prevent it from floating far from the place where it first enters the water.

Claim.—The general arrangement of parts and conveniences constituting a life and treasure preserving buoy, substantially as described.

No. 19,632.—GEORGE W. HAMILTON, of Watkins, N. Y.—*Life-Preserving Float*.—Patent dated March 16, 1858.—This invention consists of an exterior metallic case or vessel of circular form and shallow depth *a a*. The interior space within the vessel is filled with similar circular vessels having upright sides which constitute a series of concentric partitions *b c d e* and divide the space into a number of annular compartments K K. A ballast E is attached to the bottom of sufficient weight to counterbalance any burthen which may come upon the sides. Strong iron braces I, extend from one side to another of the bottom, dividing it diametrically at equal distances, and sustaining the weight E at their intersection in the centre.

Claim.—A life-preserving float constructed substantially as described, with annular concentric chambers and air receivers, combined with the central ballast E and radial braces and binding straps I and *m*, as and for the purposes set forth.

No. 19,350.—C. P. CROSSMAN and E. M. QUIMBY, of Warren, Massachusetts.—*Improved Life-Preserving Mattress*.—Patent dated February 16, 1858.—This invention consists in placing a suitable number of springs A, such as are generally used for upholstery, between plates or slabs formed of cork B B, which are connected together and enclosed within a case D, formed of strong cloth and having straps or ropes G

attached to its sides. The covering D is provided with one or more pockets E, to receive bags F, of water-proof material, to contain provisions, &c.

The inventors say: We do not claim the employment or use of cork, nor do we claim separately or apart from the whole any of the parts described.

But we *claim* the springs A and corks B, connected by the cords or straps *a c*, encompassed by the filling or layers C, and enclosed by the case or covering D, provided with pockets E and straps G, the whole forming a new and useful article of manufacture for the purpose specified.

No. 19,593.—W. URQUHART, of New York, N. Y.—*Improved Life-Preserver Raft of Buoyant Mattresses*.—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I am aware that it is old to form a raft by strapping together a series of mattresses which are arranged in the same horizontal plane, the straps being attached to the side edges and end of each mattress, and the connexion finally formed in such a manner that unclosed joints between the different mattresses exist for the water to dash up through and flood the raft, therefore I do not claim a raft thus formed.

But I *claim* providing the mattresses of a ship with straps and buckles on their upper and under surfaces, and with loops round their edges in the peculiar manner shown, whereby, in case of emergency, a series of mattresses can be buckled together, and a life-preserving raft formed, by placing several layers or tiers of the mattresses thus buckled together on top of one another, in a manner to form angular break joints, and said layers or tiers thus arranged readily and conveniently strapped together in such a manner that it will be impossible for the ties to separate or change their position longitudinally or laterally, as set forth.

No. 19,216.—LORENZO TAGGART, of Philadelphia, Pennsylvania.—*Improvement in Canvas Sheets connected with Life-Preserving Rafts*.—Patent dated January 26, 1858.—The tubes *a* are made to fit in the top openings of the casks, so that by inverting the canvas, placing the tubes in the aforesaid openings, and drawing out the edges of the canvas, a receiver is formed with outlets into the casks for securing a supply of rain water.

The canvas is used also as an awning, and by elevating one portion and drawing the edges outward, as the circumstances of the case suggests, turned into a sail.

The inventor says: I do not claim the formation of rafts by the union of water casks or other buoyant articles.

Nor do I claim using casks partially filled with water, separately considered.

But I *claim* the canvas sheet provided with tubes *a*, and serving the double purpose of awning and water receiver, and connected with the raft substantially as set forth.

No. 22,467.—OLIVER EVANS WOODS, of Philadelphia, Pa.—*Improved Life-preserving Trunk*.—Patent dated December 28, 1858.—A B and C are three separate frames made of wood, and as light as the occasion may permit, and they are united by a flexible water-proof covering D which may be covered over by leather so as to give the article the appearance of a common valise. The middle frame B is somewhat narrower than the other two, and stays E are fastened to the same by pivots *a* so that they may be brought in an improved position.

Claim.—A valise or trunk, substantially as shown and described.

No. 22,021.—T. A. DELANO, of New York, N. Y.—*Improved Life preserving Vests*.—Patent dated November 9, 1858.—This invention relates to vests that are suitable for ordinary wear, but furnished between the exterior and the lining with a float of India-rubber, or other flexible material, that can be inflated at pleasure in a few moments, without the removal of the vest from the person.

Claim.—As a new article of manufacture, a life-preserver having elastic fastenings or straps *e e*, and an inflatable air-chamber or float A extending from the breasts underneath the arm-holes, as shown and described.

No. 22,175.—CALVIN FURBUSH, of Kittery, Me.—*Improved Extensible Life Raft*.—Patent dated November 30, 1858.—This invention relates to a form of life boat or float in which air-tight tubular floats are so arranged and connected by braces with flexible joints that the raft can be thrown overboard in a closed position and afterward expanded in the water to its full extent, the flexibility of the connecting joints being such as to permit the free elevation, or depression of any one or more of the floats by the action of the waves without strain upon any of the parts.

Claim.—The combination of the diagonal braces *g*, sleeves *i* and guide bars *l* with tubular floats *a*, in the manner set forth and for the purpose specified.

No. 20,354.—LEON LEWENBERG, of New York, N. Y.—*Marine Alarm and Fog Signal*.—Patent dated May 25, 1858.—The nature of this invention consists in the arrangement of metallic springs *h h* within a series of rings *g g* in such a manner that said springs shall be operated on by a hollow metallic drum *f*, with plates *l l* along its surface parallel or nearly so to the axis of said drum; thereby the vibration of the metallic springs and drum, when the said drum is rotated by hand or otherwise, produces a sharp, loud sound that will be heard a great distance.

The inventor says: I do not claim a spring or springs acted on by a ratchet wheel for producing sound, as this has before been made use of.

But I *claim* the hollow cylinder or drum *f*, open at the ends and fitted with the ribs or plates *l*, when arranged to act on and within the circular ranges of metallic springs *h* attached to the rings *g*, for the purposes and as specified.

No. 20,328.—PETER C. CLARK, of Reading, Pennsylvania.—*Improved Reciprocating Paddle*.—Patent dated May 25, 1858.—In this invention there is applied to the stern of the vessel a number of upright levers, the fulcras of which are confined to a radius rod d ; the upper end of the radius rod being driven by a crank, will receive a rotary motion; the fulcrum of the lever c , being confined to the radius rod, oscillates in the direction of the arc of a circle; the lower end of a lever to which a paddle e is attached, being influenced by these motions, moves in the direction of an ellipse. The paddle enters the water endwise and remains in the water during the half-stroke of the crank, when another enters, thus keeping up a continuous motion.

Claim.—The arrangement of the lever e , having an adjustable paddle, with the radius bar d and crank arm b in their relation to each other and to the crank shaft, as and for the purpose set forth.

No. 19,482.—ANDREW BUCHANAN, of New York, N. Y.—*Improvement in Paddle-Wheels*.—Patent dated March 2, 1858.—This paddle-wheel has paddle-floats of the ordinary form with a series of arches $D D$, but not connected with the floats $C C$, for the purpose of preventing the breaking of the water by the action of the floats and causing the water to be kept in compact condition behind the floats during the operation. There are also ventilating pipes $c c$ for the escape of air from, under, or within the arches.

The inventor says: I do not claim the closing of the spaces between the floats, as I am aware that paddle-wheels have been made with peripheries formed like cog-wheel stars and in other forms within the said spaces closed.

But I *claim* the arrangement of the ventilating pipes $c c$, substantially as described, in combination with the arches $D D$ between the floats, for the purpose set forth.

No. 20,096.—NATHAN SMITH, of Berwick, Louisiana.—*Improved Paddle-Wheel*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the fitting of the two paddle hubs with their arms $D D D^1 D^1$ to the shaft, and the attachment of the buckets to the arms in such a manner that either hub may be permitted at pleasure to be turned upon the shaft by the pressure of the buckets upon the water, for the purpose of adjusting the buckets obliquely in either direction to the shaft and of returning them to a position parallel with the shaft, substantially as described.

Second. The employment of the bolts $j j$ and a system of levers and sliding collars $G G^1$, applied substantially as described, in combination with the loose paddle hubs $C C^1$ and fast hubs $E E^1$, with their corresponding holes, for the purpose of liberating the hubs from and securing them to the shaft, to permit and secure the adjustment of the buckets.

No. 20,676.—JAMES WINGATE, of Philadelphia, Pa.—*Improved Paddle Wheel*.—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Connecting side wheels for steamboats with recesses, in which blocks are arranged to slide toward and from the center of rotation of the wheel as the latter revolves, by means of the plates F^1 F^2 and G^1 , when constructed and operating on the blocks b as described, so as to cause the partitions between the said recesses to assume the character and duty of floats throughout a portion of the circumference of the wheel, the outer surfaces of the said blocks being level with the outer edges of the partitions throughout the remaining portions of the circumference, as set forth and for the purposes specified.

No. 21,826.—H. EHRHART, of Muscatine, Iowa.—*Improved Paddle Wheel.*—Patent dated October 19, 1858.—This invention consists in a certain system of lever-like arms carrying the floats and combined together, and with wheel to operate in combination with fixed guides attached to the vessel so that the floats shall be kept vertical, or nearly so, and be compelled to move horizontally, or nearly so, in the water, and thus be caused to act with the greatest possible degree of propulsive effect.

Claim.—The described system of lever-like arms $E E$ carrying the floats $F F$, pivoted to the body of the wheel, and combined with each other by the floats $F F$, and rods $G G$, and operating substantially as described, in combination with the guides $H H$, for the purpose set forth.

No. 21,892.—RICHARD B. LOCKE, of Stapleton, N. Y.—*Improved Paddle Wheel.*—Patent dated October 26, 1858.—This invention consists in making the buckets severally of a series of boards or plates having the form of parallelograms, and arranged side by side obliquely to the plane of revolution and with their faces oblique to the axis of the wheel and united at their angles to produce a zigzag profile in the section taken in a plane parallel with the axis of and perpendicular to the radius of the wheel, as well as at their outer and inner edges.

Claim.—Connecting the plates D to each other, or to staying rings at their adjacent angles $d d$, substantially as shown and described for the purposes set forth.

No. 21,432.—JOHN MAY, of Columbus, Ga.—*Improvement in Paddle Wheel Propellers.*—Patent dated September 7, 1858.— $A A$ is the hollow drum or cylinder, $B B$ are the buckets, $E E$ are the guides for the buckets, $F F$ is the adjustable center, $I I$ is the slide in which the center F is made fast or stationary, $K K$ is the circular disk or plate with grooves for the purpose of making the slide I to fit therein.

Claim.—The arrangement of the buckets or floats $B B$, with the guides $E E$, with the center $F I K$, and the frame C , arranged in the manner substantially and for the purpose as described.

No. 20,606.—CHARLES F. GARDINER, of East Boston, Mass., assignor to Himself and H. D. GARDINER, of said East Boston.—*Improved Propeller.*—Patent dated June 15, 1858.—The nature of this invention consists in the peculiar construction of paddles, and in the manner of

reversing the paddles on either or both sides, so as to turn the vessel without the assistance of the rudder, from the movement of a simple engine working ahead at all times, thus obviating the necessity for reversing the engine.

Claim.—The arrangement of the wheels $w w$ on the heads of the shafts S , with the rack r , and wheel W , geared therewith, operating to reverse the paddles, substantially as described, in combination with the wings $a a$, and tongues b of the shafts S , at and for the purpose set forth.

No. 20,744.—WILLIAM THURBER, of Olean, New York.—*Improved Propeller.*—Patent dated June 29, 1858.—The forward portion of the blade is secured to arm A , closer to the shaft than point a^1 on arm A^1 , and the face of the blade made to vary between the limits of forty-five degrees and five in its angle of impact with the water. This causes the pressure of the blade upon the water to increase gradually from head to heel, preventing the lateral throwing off of the water, which would take place did the blade at the heel make a large angle with the axis of the shaft.

Claim.—The falling face of the blade, in combination with the rear inclined surface P and the filling Q on the back of the blade, the construction and operation being substantially as set forth.

No. 20,953.—DATUS E. MERICK, of Cleveland, Ohio.—*Improved Propeller.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The special form of the wing B described, having its angular position upon the shaft, in combination with the flange C , having its greatest depth at the central part of the periphery of the wing, and tapering therefrom each way to the edge of the wing, as set forth.

No. 22,016.—GEORGE R. COMSTOCK, of Little Falls, New York.—*Improved Propeller.*—Patent dated November 9, 1858.—This invention consists in constructing the paddles with elastic blades, which are perforated; also, in a peculiar device for reversing the action. It also consists in constructing the paddles with cutting edges, for the purpose of preventing them from becoming clogged with vegetation.

Claim.—The series of spring blades $f f^1$ hung and reversed substantially as set forth, in combination with the cutting edges of the vibrating frame B^1 , the operation being substantially as specified.

No. 22,209.—WASHINGTON VAN DUSEN, of Philadelphia, Pennsylvania.—*Improved Propeller.*—Patent dated November 30, 1858.—The nature of this invention consists in attaching to the crank-pins which give motion to the lower end of the paddles or blades, whose upper ends are guided in their up and down movements by blocks sliding in vertical slots or grooves, the ends of the brace-bars, whose opposite ends are secured together at an acute angle, and are provided with bosses or nuts, which slide horizontally in slots formed in plates secured to the sides or stern of the vessel to be propelled, in such a

manner as to give additional strength to the paddles or blades, and enable them to better resist the action of the water, ice, or other obstruction likely to be encountered by the propelling paddles or blades.

Claim.—The arrangement and combination of the frame D, blocks B, paddles A, cranks G, rods H, and slots S, substantially as and for the purposes shown and described.

No. 20,889.—MORTIMER NELSON, of New York, N. Y.—*Improved Boat Propeller.*—Patent dated July 13, 1858.—This invention consists in arranging two longitudinal propeller frames, set with vertical paddles, on each side of the boat. The frames *g g* have a longitudinal movement in opposite directions to one another alternately, and the paddles of one frame, as said frame is moving forward, opening and acting as a resistance to the water, and the paddles of the other frame closing and presenting no resistance as said frame is moving backward. By this arrangement no loss of power by back water is experienced, as there is no expenditure of power in entering or leaving the water, as in the case of the common paddle wheel.

The inventor says: I *claim*, first, the vertical buckets *i i*, when arranged so that they shall be capable of folding against the side of the propeller frame *g*, whether turned on their axis to the right or left, in combination with a reversible stop, which will, after being adjusted, hold the buckets in a position for acting against the water during the time the engine piston is making a stroke to effect the propulsion of the boat either back or forwards, substantially as and for the purposes set forth.

Second. The arrangement of the buckets on the inner side of one of the propeller frames, and on the outer side of the other, in combination with the supporting slides, constructed and arranged substantially as and for the purpose set forth.

No. 22,373.—JAMES MONTGOMERY, of New York, N. Y.—*Improved Buoyant Propeller.*—Patent dated December 21, 1858.—A represents a hollow shaft of large size, constructed of either cast or plate metal, and running on journals *a a*¹. B B are hollow heliacal blades, convex on their rear sides, and provided with segmental flanges C fitting the cylinder A, and secured thereto by screw bolts *c*.

E is the port through which water escapes from the interior of the blade through the cylindrical casing D, its return being prevented by the valve F opening outward, and kept in its seat when at rest by an easy spring G. H is a hole through which water flows from the interior of the shaft into the blade.

The inventor says: I *claim*, first, the described or substantially equivalent means of securing the flotation of a screw propeller by ejecting water therefrom by centrifugal action.

Second. The detachable hollow blades B, in the described combination with the shaft A, for the purposes set forth.

Third. The application of the valve *l*, arranged as described, in the forward end of the hollow shaft A, for the purpose explained.

No. 21,378.—LE GRAND C. ST. JOHN, of Buffalo, N. Y.—*Improved Propeller for Boats*.—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the construction and use of a propeller case having three conduits arranged on parallel lines, so that the water will be received into the case through the outside conduits at the same stroke of the piston that water is discharged through the middle conduit, and *vice versa*, as set forth.

Second. I claim the arrangement of two revolving pistons E E with respect to an enclosing case, whether said case is made single, as represented in fig. 7, No. 2, or double, as represented by No. 3, fig. 1, and the combination thereof with a boat, so that in the act of propelling water will be received into the case at one orifice or channel and discharged at another orifice or channel through the bottom of the boat, for the purposes and substantially as set forth.

Third. I claim the construction of my revolving piston, partly of wood and partly of iron, substantially as described.

No. 22,422.—JAMES HAMILTON, of New York, N. Y.—*Improved Propeller for Boats*.—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The arrangement of two sets of propeller buckets in a reciprocating frame, so set that they act in opposite directions to give head or stern way respectively, when said buckets are combined with sliding stops fitted and acting as specified, to retain one set of buckets in a folded and inoperative position while the other set is acting to move the vessel, as set forth.

No. 20,862.—ABNER BURBANK, of Buffalo, N. Y.—*Improved Propeller for Canal-Boats*.—Patent dated July 13, 1858.—This invention relates to a propeller shaft F, so constructed and arranged that it may be moved in a longitudinal direction any distance and support the propeller N on the end thereof, so that the propeller may be projected outwardly to get a good hold upon the water and drawn inwardly toward the boat, and close up to or under the stern when passing locks, &c.; and in constructing the rudder A with a notch or recess of sufficient size to receive the propeller and allow it to work therein, so that the rudder will swing clear of the propeller and at the same time guard and protect it.

Claim.—A propeller and shaft, moveable in a longitudinal direction, in combination with a rudder having a notch or recess therein to receive the propeller, and for the purposes and substantially as set forth.

No. 22,346.—MORTIMER W. CAMP, of New Haven, Conn.—*Improved Propeller for Life-Boats*.—Patent dated December 21, 1858.—This invention consists in a method of propelling that class of life-boats having an enclosed or decked hull, by the application of the power of the occupants of the boat, or of such portion thereof as shall be found requisite to effect that purpose.

Claim.—The method of propelling enclosed life-boats by the application of the power of the occupants of the boat, as set forth.

No. 21,825.—JOHN EATON, of Belleville, Canada.—*Improved Marine Propeller*.—Patent dated October 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that it has long since been proposed to propel boats and other vessels by means of reciprocating, and also by means of rotating pumps, discharging a stream of water from the stern, and therefore I do not wish to be understood as making claim, broadly, to such method of propulsion.

But I *claim* propelling boats by means of paddles or vanes rotating in and surrounded by a casing provided with an aperture or apertures near the centre to receive the water, and with a radial spout for the discharge, when such rotating vanes or paddles and surrounding case are placed at the stern and outside the boat or vessel, substantially as described.

I also claim making the said case which surrounds the paddles or vanes, so that it can be turned to place the discharge spout in any desired direction relatively to the plane of the keel, substantially as described, for the purpose of propelling the boat or vessel either forward or backward without reversing the direction of the propeller, and also for steering or turning, as set forth.

No. 21,650.—OLIVER BYRNE and J. G. ELLIOTT, of New York, N. Y.—*Improved Screw Propeller*.—Patent dated October 5, 1858.—The nature of this invention consists in forming screw-propellers so that a sufficient quantity of water may be passed through a hollow shaft, or through a pipe, to the rear of the blades, for the purpose of filling up the hollow space established behind the blades by the motion of the vessel through the water; thus giving a firmer purchase to the screw, and avoiding in a great measure what is termed "slip."

Claim.—The device and method described, or their equivalents, for conducting useless or superfluous water to the rear of a screw propeller in immediate contact with the blades aft, not for the purpose of giving rotary motion to the propeller, but for the purpose of diminishing what is termed "slip," by the operation and methods described, or by their equivalents.

No. 22,417.—H. E. FESSEL, of Chicago, Illinois.—*Improved Steering Propeller*.—Patent dated December 28, 1858.—This invention consists in applying the propeller-shaft in bearings carried by a horizontal circular frame which is capable of rotating to some extent around a vertical driving shaft geared with the propeller-shaft, and which is so geared with a steering apparatus that the propeller-shaft may be set at any required angle to the centre line of the vessel, and the propeller thereby made to perform the duty of a rudder, without interfering with its action as a propeller.

Claim.—The arrangement and combination of the slotted frame A, propeller F, driving shaft C, and chain wheel i, substantially as and for the purpose shown and described.

No. 20,332.—AARON COLTON, of Le Roy, New York.—*Improved Valve Propeller*.—Patent dated May 25, 1858.—This invention relates

to paddles placed in horizontally sliding frames $C C^1$, and consists in attaching the same by means of pivots c between their centres and their upper edges to these frames; the upper edges being guided by loops b , which are attached to horizontal plates that are placed on the top of the sliding frame in such a manner that they assume a sliding motion, independent of the motion of the frames, whereby the paddles are inclined either one way or the other.

Claim.—The connexion of the paddles with the sliding frames $C C^1$, and the flat plates E , in combination with the stops i , constructed and operated substantially as described.

No. 20,751.—WILLIAM WEBSTER, of Jefferson county, Washington Territory.—*Improvement in Attaching and Housing Propellers.*—Patent dated June 29, 1858.— A is the exterior frame of the ship, B the fore peak, C the rim, D the after, and D^1 the forward propeller blades or fins, E the after propeller-shaft, F the forward shaft, $H G$ the forward and after stern slide port, I the forward or bow slide port, $J J^1$ the after and forward trunk, K the pipe connecting the propeller chamber with the ship's pump-well, $M M$ air chambers, N chains attached to slide ports for hoisting and lowering them from the deck, $P P$ the trap hatches in the trunks $J J^1$.

The inventor says: I *claim*, first. The sliding ports $G H I$ (of any shape required by the form of hull and propellers) and connected apparatus by which they are operated for covering and uncovering the propellers, substantially as specified, in combination with the trunk J , and trap hatch P .

Second. The pipe F leading from the propeller chamber to the pump-well, as and for the purpose described.

Third. The mode of attaching and detaching the after propeller blades as and for the purpose specified, in combination with the slide ports and propeller chambers.

Fourth. The air chambers in the bow and stern as arranged relatively to the propeller recesses or chambers, substantially as and for the purpose described.

No. 19,887.—SETH WILMARTH, of Charlestown, SAMUEL L. HAY, of Reading, and DAVID N. B. COFFIN, jr., of Newton, Massachusetts.—*Improvement in Coupling of Shafting for Propellers.*—Patent dated April 6, 1858.—The object of this invention is to provide for both the angular and transverse variation of the joints of shafting, particularly of propeller shafts in steam vessels. By angular variation is meant the deviation of the shaft from a direct line when the axes coincide at the joint. By transverse variation is meant the want of coincidence of the axes of the two parts of the shaft at the joint.

Claim.—The combination of plate d , or its equivalent, with the head plates of the shaft in any manner, substantially as described, so that the coupling may accommodate itself to the angular and transverse variation between the driving and driven parts of the shaft, whether that variation be variable or permanent.

No. 22,266.—HORATIO O. PERRY, of Buffalo, N. Y., assignor to Himself and SIDNEY SHEPPARD, of said Buffalo.—*Improved Means for Securing the Arms to the Hubs of Propellers*.—Patent dated December 7, 1858.—The nature of this invention consists in fitting the arms into conical sockets in the hubs, and in confining the parts together by keys so arranged that the small end of the second key extends across the head of the first, the smaller end of the third extends across the head of the second, and the small end of the fourth across the head of the third, so that none of the other keys can, by any chance, be displaced until the fourth has been removed.

Claim.—The employment of the conical ends c^1 , confined in the corresponding sockets in B^1 , by the keys $D^1 D^2 D^3$, &c., substantially in the manner and for the purposes set forth.

No. 22,431.—SAMUEL HUSE and SAMUEL HUSE, jr., of Chicago, Illinois.—*Improved Propelling and Steering Apparatus*.—Patent dated December 28, 1858.—A is the deck of the vessel, B a vertical post which is held firmly up to the stern post H by straps Z; to this post is suspended by similar straps X the rudder C, which is enlarged as at C^2 , so as to form a frame within which revolves the propeller D, and in which is boxed both ends of its shaft f . This shaft carries at its extremity a gear E that is driven through the intermediate gear F by a similar gear G upon the engine shaft G.

The inventors say: We *claim* as an improvement in propellers when hung within the rudder and operated by gears E F G, as set forth, receiving the end thrust of the propeller shaft upon the sleeve I on the post B, arranged and operating in the manner substantially as described.

No. 19,851.—JAMES H. HILLS, of Burlington, Vermont.—*Improved Row-Lock*.—Patent dated April 6, 1858.—The nature of this invention consists in constructing a row-lock in any convenient form, from the top of which the oar is suspended, and when operated in rowing the boat the oar will feather itself when the boatman may so desire to use it; or, by the use of screws, the oar will cease to be a self-feathering oar, but may be feathered by the boatman with ease by turning the oar within a ring which encircles it.

Claim.—The arrangement and combination of half rings H, and set or adjusting screws F and J, and the suspension and operating of the oar at point e , substantially in the mode and manner described.

No. 19,084.—JOSIAH FOSTER, of Sandwich, Mass.—*Improvement in Marine Safes*.—Patent dated January 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim applying air chambers to a vessel to buoy the same up when immersed in water.

Nor do I claim a marine safe or trunk made with an air-tight chamber applied to a receiving chamber, provided with a mouth and closing cap-plate.

But I *claim*, in the construction of a marine safe for preserving letters, money, or other articles from shipwreck, the arrangement of

the extra cap F, with the air chambers D and B, in connexion with the safe *a*, constructed and operating as and for the purpose described.

No. 19,067.—JOSEPH F. BOYD, of Charlestown, Mass.—*Improvement in Reefing Sails*.—Patent dated January 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim extending both the reef tackles and the reef band suspension lines of a topsail upward from the reef band to and through leading blocks or sheaves applied to the topsail yard.

Nor do I claim extending both the reef tackles and the reef band suspension lines of a topsail upward from the reef band to and through leading blocks or sheaves applied to the topsail yard, thence toward the topmast, and through other leading blocks or sheaves applied to the topsail yard; thence upward to and through leading blocks suspended from the topmast at or near its head, and from thence to the deck of the vessel, as I am aware that such an arrangement and application of reef tackles and reefing lines is exhibited in the patent granted to William H. Foster, September 5, 1854.

I *claim* my improved arrangement or application of the two reef tackles B B, and the series of intermediate reefing lines G G G to the sail, the mast, and the topsail yard, the same consisting in carrying the two reef tackles of the outer edges of the sail upward through blocks at the topmast head, and thence downward to the top or deck, without, in the mean time, leading them through any blocks, or their equivalents, by which, when said lines are pulled, they shall tend to lift the yard, in connexion with arranging the intermediate reefing lines, so that they may extend upward from the reef-band to and around sheaves in the topsail yard, and thence down to the top or deck, in manner specified, without, in the mean time, leading them up to and through a block or blocks appended to the topmast head.

No. 19,850.—LEWIS HIGGINS, of Jersey City, N. J., and ALEXANDER BROWN, of New York, N. Y.—*Improvement in Reefing Sails*.—Patent dated April 6, 1858.—This invention is described by the claim and engravings.

The inventors say: We do not claim the rolling of the sail on the yard itself.

But we *claim*, first, the truss frame E E, constructed and fitted with a series of rollers *a a*, which embrace the yard and rolled up portion of the sail, substantially as described, to hold the yard to the mast, but to permit the rolling of the sail thereon without the necessity of dividing the sail down the centre.

Second. The combination of the rings H H, which carry the travelling leads *f*, with the yard and with the truss, by means of the collared bands *d d* and the rolling stays *h h*, in the manner substantially as described, to prevent longitudinal movement of the yard, and the rolling of the travelling leads with the yard.

No. 19,225.—DONALD McLEAN, of Boston, Massachusetts, assignor to Himself, SAMUEL GREEN, and NATHAN AMES, of Saugus, Massachusetts.—*Improvement in Reefing Topsails*.—Patent dated January 26, 1858.—The nature of this invention is explained by the claim and engravings.

Claim.—The arrangement, substantially as described, of the revolving jack-yard B and the reef lines C, whereby the sail is reefed by simply doubling over itself, instead of being rolled or tied up.

No. 22,097.—DANIEL VROOMAN, of Hudson, Ohio.—*Improvement in Ship Building*.—Patent dated November 16, 1858.—The nature of this invention consists in forming projections on the bow, bilge, run, and counter of ships whose sides shall be parallel with the keel of the same, and whose upper and lower surfaces shall incline at corresponding angles with the water line so as to form acute angles at their terminations, and attaching to these wedge-shaped portions gutta percha or other elastic fins or wings, in such a manner as to cause the water to impinge and act upon the inclined surfaces of the projections, and the yielding elastic fins or wings in continuation of them during the upward and downward movement of the vessel through the rolling of the sea and the corresponding movement of the water, and thus propel the vessel on her course.

Claim.—The arrangement and combination of the inclined surfaces or projections B D and the elastic fins or wings A with the hull of the vessel, substantially as and for the purposes shown and described.

No. 20,657.—SAMUEL NOWLAN, of New York, N. Y.—*Improved Air Cells for giving Buoyancy to Ships and other Vessels*.—Patent dated June 22, 1858.—This invention consists in a permanent arrangement beneath the deck of a series of cylindrical vessels or wrappers E, made of a yielding, strong, and thin material, which may be inflated with air from an air pump H, located outside on the upper deck. These vessels may be attached to belts or bands and may be wound up on reels R R¹ in order to remove them to some place out of the way.

The inventor says: I *claim* the arrangement of a series of cylindrical air vessels beneath the deck or decks of vessels in combination with the reels and their appurtenances, whereby the said air vessels may be readily removed from or brought into position at pleasure to operate substantially in the manner as specified.

I also claim the flexible induction tube communicating through the hollow reel shaft with the air pump and the air vessels, by means of one or more suitable valves, arranged in the manner and for the purposes described.

No. 21,609.—JOHN LEWIS, of Elizabeth City, N. J.—*Improved Balance Sail Rig for Ships*.—Patent dated September 28, 1858.—Patented in England September 4, 1855.—This invention relates to the peculiar mode of constructing and working a set of yards or spars, connected by frame work, so as to move on a centre or pivot, the said frame being balanced on said pivot so as to turn easily thereon, and

also receiving sails so set as to present nearly the same extent of surface on each side of said centre and thus be balanced in their action.

The inventor says: I *claim* the spring beam *b* applied between the pyramidal frame or shears *c c* and the sides of the vessel, and connected to both the frame and vessel in substantially the manner and for the purposes specified.

I claim constructing a frame to receive sails by the horizontal yards combined with the double ranges of spars and braces, substantially in the manner specified, whereby the said yards are permanently sustained at the desired distances apart, and a clear space is left from end to end of said yards for spreading the sails without their coming in contact with the said spars and braces as described.

I also claim the sail frame constructed as aforesaid and combined with the pyramidal shears *c c* by the joint *x* near the middle of said sail frame, whereby the aforesaid sail and frame are sustained and permitted to be turned in the manner and for the purposes specified.

No. 19,737.—CHARLES MALIPHANT, of New York, N. Y., assignor to THOMAS WEST, of said New York.—*Improved Ship's Bulkhead*.—Patent dated March 23, 1858.—The nature of this invention consists in the use of double diagonal planking, with felt or equivalent material saturated with turpentine between said planking. The plankings are placed between stanchions, whereby the bulkhead is rendered perfectly tight, and the working of the vessel or the shrinking of the planks cannot cause the said bulkhead to leak.

Claim.—The arrangement of two or more thicknesses of crossed planking, the interposed felt or other equivalent material, and the stanchions with each other, substantially as specified, and for the purpose set forth.

No. 20,131.—JAMES R. TAYLOR, of New York, N. Y., assignor to WILLIAM SKIDDY, of said New York.—*Improved Ship's Capstan*.—Patent dated April 27, 1858.—This improvement lies in having the gear wheels for increasing the power supported and carried upon a separate or detached plate, located at the base of the capstan, and maintained in position by the passage of the spindle through it, but to which said spindle is not attached.

Claim.—Freely revolving plate *e* for carrying the intermediate gear wheels, in combination with the capstan head, and with the shifting stop *p*, substantially as described.

No. 19,043.—JOHN REEVES, of Brooklyn, N. Y.—*Improvement in Construction of Ships*.—Patent dated January 5, 1858.—The nature of this invention will be understood by an examination of the claim and engravings.

Claim.—Tying the bilge timbers or planks of a ship's hull together, and also preventing vibrations of the sides of the hull by means of strong knees, which conform to the curve of the bilge, and diagonal braces which attach to said knees, and bear in opposite directions through said knees against the bilge and top sides of the hull, substantially as and for the purposes set forth.

No. 20,233.—SAMUEL VERY, jr., of Salem, Mass.—*Improvement in Working Ship's Lower Sails in Courses*.—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Constructing what are commonly known as the "courses" of a vessel, viz, the foresail, mainsail, and cross-jack, with a central clew for a sheet or tack in addition to the usual sheet and tack of such sail, for the purpose of enabling a lighter crew to handle those sails, as set forth.

No. 20,877.—ROSWELL W. HASKINS, of Buffalo, N. Y.—*Improved Method of Coppering the Interior of Ships to Protect them from Lightning*.—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I make no claim to lightning rods in any mode in which they are now used.

But I *claim* protecting vessels from lightning by means of metal linings, arranged substantially as described.

No. 21,134.—PETER H. JACKSON, of New York, N. Y.—*Improved Ship's Windlass*.—Patent dated August 10, 1858.—The nature of this invention consists in applying a movable brace or bit at the end of the windlass shaft in such a manner as to sustain said shaft when in use, or when disconnected to be entirely out of the way, so that a chain can be slipped on to or off the windlass barrel with great facility.

Claim.—The bit *l* taking the end of the shaft *b* as specified, when combined with the brace *n*, block *o*, and key *i*, or their equivalents, substantially as and for the purposes set forth.

No. 19,332.—DANIEL AMMEN, of the United States Navy.—*Improved Signal Lantern*.—Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The peculiar construction and arrangement described of fixed colored screens or glasses to bowsprit cap lanterns, whereby only one color can be seen from any given point at the same time, which consists in the application of fixed red and green glasses or screens indicating respectively "port" and "starboard" sides, when these colored glasses or screens form arcs of 90° , or thereabout, upon the cylinder of the lantern, and when separated by a white glass or screen forming an arc of 45° , or thereabout, substantially as set forth.

No. 20,321.—RICHARD F. BRIDWELL, of St. Louis, Missouri.—*Improved Sounding Apparatus*.—Patent dated May 25, 1858.—This invention consists in the application of a lever *c* to the bow of the vessel in such a manner that the said lever can vibrate in either direction.

A is the hull of the vessel and I is the cutwater around which the strap *b* is passed and secured to the hull of the vessel. This strap has a journal made on it directly in front of the cutwater, as shown at *m*, and on this journal a cam block *o* is placed, which is made so as to vibrate on the journal; *d* is a vibrating crotch-bar which has a

square end on it equal to the cam bar *o* and the cam on the end of lever *c*, the cams being designed to act against the said square surface on the end of the catch-bar.

The inventor says: I do not claim broadly the application of a lever to the bow of a vessel to indicate the depth of water beneath the bottom.

But I *claim* the use of a lever applied to the bow of a vessel so constructed, combined, or arranged as to vibrate in either direction, substantially in the manner described for the purpose specified.

No. 21,919.—ROSS WINANS and THOMAS WINANS, of Baltimore, Maryland—*Improvement in Construction of Ocean Steamers*.—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim* the combination of a vertical transverse trunk within the hull of a vessel, with a screw propeller of large diameter, whose blades shall project beyond the outline of the hull, substantially as set forth.

No. 19,139.—JOHN FRANZ, of Boston, Massachusetts.—*Table-Rack for Steamers, Ships, &c.*—Patent dated January 19, 1858.—A marks the table and B the rack in both figures. This improved rack is made of wood of the same size as the top of the table to which it is to be applied. The rack is elevated above the surface of the table by means of strips under its edge as shown in the engravings; the outer edge of this strip projects downward to embrace the edge of the table. The rack is perforated with holes corresponding in number and size with the ordinary pieces of table service to be employed.

The inventor says: I do not claim a fixed rack, for that has been used before in stewards' pantries, for holding ships' crockery and table furniture.

Neither do I claim a perforated metallic plate used to cover a hot water bath, nor a perforated false bottom for butlers' trays.

But I *claim* the adjustable, removable, perforated wooden rack for vessels' tables, before described, constructed and used substantially in the manner and for the purpose specified.

No. 19,813.—ISAAC MOORE, of Brooklyn, New York, assignor to Himself and FRANCIS N. GOVE, of said Brooklyn.—*Improvement in Steering Apparatus*.—Patent dated March 30, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not limit myself to the relative sizes of the gears *c* and *f*, nor to the exact arrangement of the screws and nuts, as all these parts are well known and might be varied to suit particular circumstances. And I do not claim a yielding motion between the steering wheel and rudder head, as this has before been allowed by means of springs and by ropes of a slightly yielding nature; but I am not aware of any previous instance in which the screws acting on the rudder head have been allowed an endwise motion resisted by springs or equivalent yielding pressure as specified.

Therefore what I *claim* is the manner described of relieving the rudder stock of any sudden strain or concussion by the endwise motion allowed to the screws $x x$, in combination with the springs $l l$, or equivalent yielding pressure, as and for the purposes specified.

No. 20,239.—STEPHEN B. CRAM and CHARLES WEED, of Boston, Mass.—Assignors to STEPHEN B. CRAM, of said Boston.—*Improved Steering Apparatus*.—Patent dated May 11, 1858.—As the wheel is turned in the direction of the arrow, the nut G is caused to travel aft on the shaft E ; this draws on the cord f attached to the after part, and on the cord p attached to the forward part of the cap I , and revolves it in the direction of its arrows. As the strain is brought on both sides of the nut G in the same direction, little or no torsion can be given to the nut.

When the motion of the wheel F is reversed, and the nut is drawn forward or in the opposite direction, the ropes g and n are drawn upon in a similar manner.

The inventors say: We *claim* the screw a and nut G , in combination with the ropes, operating in the manner substantially as set forth.

Second. And in combination with the above, we claim the described tightening apparatus, or any equivalent thereof, arranged in the manner set forth for the purpose specified.

Third. And in combination with the described arrangement of ropes or chains as applied to "mechanical steerers," we claim the employment of springs operating as described for the purpose specified.

No. 21, 210.—FRANKLIN A. MORLEY, of Sodus Point, N. Y.—*Improved Steering Apparatus*.—Patent dated August 17, 1858.—The claim and ongravings explain the nature of this invention.

The inventor says: I *claim* the combination of gears and shafts, arranged substantially as described, for operating the rudders of vessels, and at the same time allow them ample room to traverse perpendicularly and vibrate slightly horizontally.

And in combination with the above, I claim making the journals of the shaft I longer than the boxes in which it turns, or elongating the hole in the box E so that the shaft can vibrate horizontally on both of these devices, combined to accommodate the pinions $J J$ and make them act with the same power or force on each of the gears $K K$ as described.

No. 22,453.—JESSE REED, of Marshfield, Mass.—*Improved Steering Apparatus*.—Patent dated December 28, 1858.—In operating this invention, as the wheel F is turned in the direction of its arrow the nuts G recede from each other, the rods H being drawn through the lugs d^2 until the nuts are hard up against the blocks D , when the ends of the guide rods will be drawn out of the bearings D , or, if found convenient, these rods may be made of such length that their ends will remain in the bearings D , which will make them still more firm and unyielding to any lateral strain.

Claim.—First. The duplex screw-shaft E , in combination with the nuts G and guide rods H , the rods being each permanently connected

with one of the nuts and passed through the lug d^2 on the other nut, and operating in the manner substantially as specified.

Second. In combination with the above, connecting the nut G to the rudder-head by means of the arm I, bulb K, and rod b , operating substantially as described.

No. 21,852.—VAN BUREN RYERSON, of New York, N. Y.—*Improved Submarine Explorer*.—Patent dated October 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not wish to be understood that I limit my claim to the special form and construction specified, as these may be greatly varied within the range of my invention, so long as the principle or character of my invention is retained.

What I *claim* is the method of controlling the rising and sinking power of the apparatus, by means of a reservoir or reservoirs of compressed air, connected and combined with a working chamber or chambers, and rising and sinking therewith, substantially as described, so that the operators within, by the use of the compressed air, can readily control the rising and sinking power of the apparatus without communication with the surface, substantially as set forth.

I also claim a submarine explorer, in which the rising and sinking power is controlled by a reservoir or reservoirs of compressed air making part thereof, and rising and sinking therewith, and in which there are two or more working chambers, substantially as described; the dividing the said working chambers by a hatchway, which can be closed water and air tight, substantially as described, to sustain the apparatus with the top above water, when said top is open for any purpose, as set forth.

I also claim, in combination with the reservoir or reservoirs of compressed air, connected and combined with one or more working chambers, and rising and sinking therewith, substantially as described, the employment of one or more ballast chambers at or near the bottom, and so arranged substantially as described, that at the will of the operators they can be made to communicate with the compressed air reservoir or reservoirs and with the surrounding water, as described, to increase the lifting or sinking power of the apparatus, as set forth.

I also claim, in a submarine explorer, combining with the working chamber or chambers thereof the employment of a spray or shower of water, which, at the will of the operators inside, may be discharged at any time required to purify the air by absorption, substantially as described.

I also claim, in combination with the reservoir or reservoirs for compressed air, combined and moving with one or more working chambers, the employment of a pump which can be worked by the operators within, and which communicates with the reservoir or reservoirs of compressed air, and also by means of a flexible pipe and float provided with a self-acting valve, with the atmosphere above, substantially as described, so that in case of accident the operators within can replenish the air in the reservoirs to enable them to control the apparatus, as described.

No. 21,906.—JOHN SAMPLE, of Meadville, Miss.—*Improved Tiller Rope Protector*.—Patent dated October 26, 1858.—This invention consists in the application of a protector to the tiller ropes, which will shield them from the action of the fire and until the boat can be run to the shore.

Claim—Placing a double casing of metal, made in sections so as to reach their interior, and with air space between them, around, over, or under the tiller ropes of vessels, to protect them from the accidents of fire, substantially as described.

No. 22,088.—JESSE F. POTTS, of Apalachicola, Fla.—*Improved Centre Boards for Vessels*.—Patent dated November 16, 1858.—The principle of this invention consists in the construction and arrangement of a centre board so as to be easily adjusted, and to present the greatest area on its side with the least practicable draught or depth of water. For this purpose it is also requisite that the board be capable of being moved upward and downward, and to be kept in a position always parallel to itself.

Claim.—The two or more hinges or parallel bars D and D, as described, when arranged in the manner and for the purposes set forth.

No. 21,917.—ROSS WINANS and THOMAS WINANS, of Baltimore, Md.—*Improvement in Steam Vessels*.—Patent dated October 26, 1858.—The object of this invention is to diminish the variation of resistance to the winds and waves which causes a vessel to roll, and also to diminish those resistances which prevent the vessel when “careened,” or inclined to one side from “righting,” or returning to its nominal upright position, while at the same time is obtained increased strength and stowage and a capacity for greater average speed. These objects are accomplished by giving to the hull such a form that the transverse section of the exterior in any part will be represented by a circle.

Claim.—Constructing the hull of a steam-vessel in the form of a spindle, substantially as described.

No. 20,673.—WILLIAM WEBSTER, of Jefferson County, Washington Territory.—*Improvement in Masting and Rigging Vessels*.—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, substituting for the compound and connected masts now in use on large vessels, independent and disconnected masts made of a single stick of timber, as and for the purpose described.

Second. Attaching the masts to the hull by shrouds placed at the angle with the mast as described and represented.

Third. The truss bands E G for attaching the yards to the masts, and holding them at any desired point thereon, constructed and operating as described.

Fourth. The lift bands K K, to which the lifts and slings are attached, constructed and applied as described.

No. 19,841.—W. Y. GILL, of Henderson, Ky.—*Improved Means for Protecting Tiller Ropes of Vessels from Fire*.—Patent dated April 6,

1858.---This invention consists in having the tiller ropes fitted in metal tubes, which tubes are enclosed by others of larger diameter, so that a space is allowed between them to be filled with any proper non-conducting material. These tubes are to extend from the wheel-house to the tiller, so that the entire length of the ropes, or the parts most exposed, will be fully protected.

The inventor says: I do not claim, broadly, the protecting of articles from fire by enclosing the same within a double case, the space between its sides being filled with a non-conducting material, for this is a well-known means of protecting articles from heat, and may be seen in the various fire-proof safes, refrigerators, water-coolers, &c., in common use.

But I *claim* enclosing the tiller ropes *G* of steam vessels by a double tubing *b d*, connected with double boxes *c f*, or their equivalents, to form the necessary elbows, the spaces between the tubes and boxes being filled with a proper non-conducting material *e*, and the whole arranged and applied substantially as shown and described, for the purpose set forth.

No. 21,534.—GURDON CONKLING, of Conklingsville, N. Y., assignor W. T. CONKLING, of said Conklingsville.—*Improvement in the Mode of Launching Vessels*.—Patent dated September 14, 1858.—The object of this invention is to facilitate the starting of a vessel on its ways, and thereby obviate the delay and embarrassment usually attending the launching of vessels, especially those of large dimensions. It consists in the employment or use of runners provided with balls, and used in connexion with ways, whereby the desired end is obtained by simple and economical means.

Claim.—The inventor says: I am aware that balls have been used for raising vessels on ways, and they have also been used as anti-friction devices in various ways.

I do not claim, broadly, therefore, the employment or use of balls, separately considered.

But I claim the runners *c*, balls *a*, and ways *A*, combined and arranged substantially as and for the purpose set forth.

No. 20,426.—HENRY HALLOCK, of Brookhaven, N. Y.—*Buoyant Life-Preserving State Rooms for Navigable Vessels*.—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement specified, whereby the state-rooms of boats are rendered capable of self-detaching in the event of the hull of the boat sinking, and when detached, of floating squarely upon the water, and of affording ventilation, light, food, and fresh water, and a means whereby their drifting can be controlled from the inside by the occupants, all for the purposes set forth.

No. 19,996.—BENJAMIN JOLINE, of Westfield, N. Y.—*Improvement in Centre-boards of Navigable Vessels*.—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim, broadly, suspending a centre-

board within its trunk by chains or ropes, for this has been previously done.

But I *claim* suspending the front end of the centre-board C within its trunk A by means of the bridle D, in combination with the bolt *e* and slot *d*, or their equivalents, to serve as a guide, the parts being arranged to operate substantially as and for the purpose set forth.

No. 22,002.—SILAS YERKES, Jr., of Philadelphia, Pa., assignor to Himself and GEORGE YERKES, of said Philadelphia.—*Improved Rudder for Vessels*.—Patent dated November 2, 1858.—This invention consists in making a rudder in two parts, denominated “main rudder” and “outside rudder,” of which the former is hinged in the same manner as a common rudder to the stern-post of the vessel, and the other one is hinged in a similar manner to the back of the first one, and has screwed to it a concentric toothed gear, which gears with stationary toothed arc concentric with the first one. The main rudder is operated like a common rudder, and by its action the outside one is caused to move in the same direction, but faster, and the two combined are caused to produce a greater effect on the water by a given movement of the steering apparatus than a single rudder presenting the same area of surface.

Claim.—The gearing of the outer or aftermost of the two hinged portions of the rudder with a fixed gear or toothed arc attached to the vessel, substantially as and for the purpose specified.

No. 19,047.—J. C. SALOMON and G. W. MORRIS, of Baltimore, Md.—*Improvement in Lightening Sea-going Steam Vessels*.—Patent dated January 5, 1858.—The nature of this invention consists in devices for releasing steam vessels from the burden of their engines and boilers by means of unshipping or detaching a certain portion of the frames, &c., in sections, and which sustain or act as supports of the boiler and engine, and thus freeing such vessels of the boiler and engine by dropping them into the sea.

Claim.—We claim so attaching the engine and support of the boiler to movable or detachable bottoms and sides of the vessel, that they may be dropped out, and thus relieve the vessel of its weight, in the manner set forth.

No. 21,918.—ROSS WINANS and THOMAS WINANS, of Baltimore, Md.—*Improvement in Steam Vessels*.—Patent dated October 26, 1858.—This invention consists in the combination of a hull, which may be represented by a spindle, divided transversely near the middle of its length with a transverse vertical propeller occupying a space between the two portions of the spindle, which are secured together by a suitable framing, or sleeve, firmly attached to their adjacent ends and extending over the propeller, thus combining the two ends and a connecting frame into a structure possessing the requisite rigidity and strength. This invention also comprises the frame, which is called a “sleeve,” and the series of plates which are called “ribs,” for constructing the ends of this frame respectively with the adjacent ends of the two compartments of the vessel, steadying the vessel in the manner of a keel,

and together with the sleeve directing the water to and from the propeller; and it further consists of means for affording ingress to, and egress from, each of the two compartments of the vessel, a communication between and a means of ventilating them.

The inventors say: We *claim* first, the combination of a spindle-shaped hull, formed of two separate water-tight vessels, united by a sleeve or framing with a propeller, arranged and operating substantially as set forth.

Second. The sleeve in combination with the ribs, or standards, for connecting the two end portions of the spindle-shaped hull, steadying the vessel as a keel does, and directing the course of the water as it enters and leaves the space occupied by the propeller.

Third. The combination of the two end portions of the spindle-shaped hull, with the towers and bridge between them, for the purpose of affording ingress to and egress from each end of the hull, and a means of communication between them, and also supplying a suitable means for the ventilation of the two parts of the hull, substantially as set forth.

No. 21,920.—ROSS WINANS and THOMAS WINANS, of Baltimore Md.—*Improvement in the Connection of Steam engines with propellers of Steam Vessels*.—Patent dated October 26, 1858.—This invention is designed to secure greater compactness in the arrangement of the engines and propeller than has hitherto been attained, particularly in ocean steamers; to secure for both the engines and the propeller the best position for them in the vessel, and to connect them without employing long shafts.

Claim.—The combination of two engines, or sets of engines, with an intermediate vertical transverse-propelling wheel, to the shaft of which the engines are directly connected, substantially as set forth.

No. 20,578.—MILB OSBORN, of Osbornville, Ohio.—*Improvement in Apparatus for raising Sunken Vessels*.—Patent dated June 15, 1858.—The sinker H is a heavy mass of metal, of sufficient weight to sink the buoy. From the upper side of this weight projects a rod J to the upper end of which is attached the hook K; at the lower end of the rod J is a sliding hook I which takes hold of the staple I¹ in the lower end of the buoy F. Two other rods J¹ J¹ are secured to the upper side of the sinker H.

Claim.—The sinker arranged with the rod I, adjustable hooks J and K, and bale J¹, and in combination with the buoy F and clasp G, substantially as described, the same operating in connection with the cables A and D, in the manner and for the purpose set forth.

No. 21,532 —ALDRIDGE WINHAM, of New York, N. Y.—*Improvement in Apparatus for Raising Sunken Vessels*.—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the construction, arrangement, and combination of the rigid and elastic inflatable air vessels A and B, together constituting the raiser when so united, and so small as to be

conveniently carried by any vessel which they can raise, essentially in the manner and for the purposes fully set forth.

I also claim the portable shoe *d*, so constructed of wood and iron, or other material, as to be managoable under water, so as to be easily applicable to the sunken vessel, to receive the cable for raising, and protect the vessel from abrasion or jamming by the cable, essentially in the manner and for the purposes fully set forth.

I also claim the inflatable elastic stopper *L*, so constructed as to be easily thrust through a leak or opening in the vessel, and afterwards inflated with air which stops the opening, so that the sunken vessel may be exhausted of water to assist its raising, essentially in the manner and for the purposes fully set forth.

No. 19,500.—FREDERICK G. FORD, of New York, N. Y., and PASCAL PLANT, of Washington, District of Columbia.—*Improvement in Method of Raising Sunken Vessels*.—Patent dated March 2, 1858.—This invention consists in the employment or use of a chain *E*, used in connexion with a tube *C*, whereby chains may be passed underneath and around sunken vessels, and also vessels in a sinking condition, and by means of inflated bags or other suitable air vessels, which are attached to the chains *G* that are passed underneath the vessel, which may be raised or kept afloat by their buoyant power. This invention may also be applied to raising of obstructions from the beds of rivers and harbors.

The inventors say: We do not claim the employment or use of inflated bags for raising sunken vessels, for such means have been previously used.

But we *claim* the chain *E*, constructed substantially as shown and provided with one or more internal chains *G H*, and used in connexion with the tube *C* and chain *E*, to wit: the framing *B* provided with the pulley *I* and pinions *F D*, which gear into the racks *a e*, made respectively in the tube *C* and chain *E*, substantially as and for the purpose set forth.

No. 20,287.—PATRICK McLAUGHLIN, of Camden, Maine.—*Machine for Worming, Parcelling, and Serving the Rigging of Vessels*.—Patent dated May 18, 1858.—In using this machine the rope *S* is led from the windlass *P* through the hollow shafts of the mallets and is secured to the gallows *Q*, it is then drawn taut by the windlass, the mallets being supplied with yarn and parcelling, the machine is set in motion when the carriage *D* will be fed along in the direction of its arrow, then as the mallets are revolved the worming will be put on by the mallet *R*, the carriage then travels along until the part of the rope that has been wormed passes through between the posts *H* and *I*, when the end of the parcelling is attached and the mallet *V* continues to wind the parcelling around over the worming, then as the carriage progresses further and the portion of the rope which has been parcelled comes out beyond the post *K*, the yarn *V* is attached and the mallet *X* serves the yarn over the parcelling, completing the operation.

Claim.—The described machine, consisting of an arrangement of devices for worming, parcelling, and serving rope, in combination with

suitable devices for holding and straining the same, operating in the manner substantially as described.

No. 22,475.—HENRY R. ROWLANDS, of Boston, Mass.—*Improved Apparatus for Walking on the Water*.—Patent dated December 28, 1858.—The operator standing on the steps *c c* belays taut the forward float lines and slackens the after ones, then, by taking hold of the stanchions *H H*, he advances one foot forward, similar to the action in walking, the water forcing open the after floats; a short pause then ensues, and the float falls, by its own weight, to its first position, thereby preventing a retrograde motion of the boat while the other is advancing in the same manner. To back water, the after floats are raised and the forward floats lowered.

Claim.—The construction and use of the apparatus by the arrangement of the metal floats *o o*, the metal ballast bands *m m*, and the wooden stanchions *H H*, in a manner substantially as and for the purpose described.

No. 19,787.—JOSEPH P. MANTON, of Providence, R. I.—*Improvement in Windlasses*.—Patent dated March 30, 1858.—This is an improvement in that class of windlasses in which the drum may be operated with two different speeds, and power obtained when necessary by sacrificing speed, and *vice versa*. The invention consists in the peculiar arrangement of pawls *g h* and gearing *Q Q¹ R F G*, whereby the desired end is attained.

The inventor says: I do not claim the brakes, for they have been previously used; and I am also aware that pawls, ratchets, and gearing have been used and arranged in various ways for the purpose of varying the speed and power of windlass drums by simply reversing the movement of the driving-shaft or arbor.

I, therefore, do not claim broadly such device, irrespective of the described arrangement of parts.

But I *claim* the arrangement of the pawls *g h*, wheel *N*, hub *P*, ratchets *S*, and gearing *Q Q¹ R F G*, so as to operate as and for the purpose set forth.

No. 20,427.—DAVID D. HAMMOND, of Duxbury, Mass.—*Improved Windlass*.—Patent dated June 1, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The combination of the sector-shaped cams and movable cogged wheels travelling in guides, when attached to a bridle which actuates the pawl of the ratchet-wheel of a windlass, as described.

No. 20,555.—JOHN HARVEY, of Carmel, Maine.—*Improvement in Windlasses*.—Patent dated June 15, 1858.—By turning the wheel *C* by the line *H*, so as to wind up the ropes 3 and 4 upon the larger cylinders *D D*, the ropes 1 and 2 on the smaller ones will unwind therefrom and a constant power will be gained. The windlass is formed cylindrical at *E E¹*, and of a less diameter than it is at *D D*; beyond the parts *E E* it is constructed conical or tapering, as shown at *I I*.

Claim.—The mode of obtaining power by a windlass and ropes, constructed and arranged substantially as specified; and I particularly claim making the windlass with the conical or tapering parts I in conjunction with the cylindrical parts D E, or either, as described.

No. 21,280.—SAMUEL N. SMITH, of New York, N. Y.—*Improved Windlass.*—Patent dated August 24, 1858.—This invention consists in the peculiar means employed for applying or transmitting power to the windlass shaft, whereby the strength of the operators may be applied to the same very uniformly and advantageously.

Claim.—The lever L provided with the rack K, which gears into the rack J, in connexion with the rods M M and levers N N, connected by the links O with the arms I I, of the boxes H H; the whole being arranged for joint operation as and for the purposes set forth.

VIII.—MATHEMATICAL INSTRUMENTS.

No. 21,621.—JOHN B. NEWBROUGH, of St. Louis, Missouri.—*Improved Machine for Adding Numbers.*—Patent dated September 28, 1858.—The nature of this invention consists in the arrangement of two wheels, or rather a dial and a wheel placed horizontal and parallel with each other inside of a box; and in combination a lever or finger piece which operates on the dial or larger wheel by passing through a slot in the box, a pointer being so fastened to the finger piece that it will point to the figures of the index, marked on the outside of the box; thus making the operation for adding numbers merely the moving back and forth of the finger piece on the index to the numbers required to be added.

Claim.—The obstructing wheel, containing a successive number of slots, corresponding to the circles of figures on the dial, when arranged in combination with the dial, to produce the result as shown and described.

No. 21,236.—LEONARD N. NUTZ, of Alton, Illinois, assignor to IRWIN B. RANDLE and ELIAS HIBBARD, of Madison county, Illinois.—*Improvement in Addometers.*—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that machines, with a series of circular indicators and a corresponding number of sets of keys, have been made to effect the same purpose; but in these there were no means of connecting or disconnecting at pleasure the keys and the several wheels, so as to make the same set of keys register in turn the additions of the several columns.

I therefore do not claim broadly registering the result of the addition of figures in columns, by means of movable indicators acted upon by the keys of a finger board.

But I *claim* the feathered shaft D, when combined and arranged with a series of indicators $c\ c\ c$, and a set of keys, substantially as above described, for the purpose of enabling the operator to add up and register any number of columns of figures in succession by means of the same set of keys.

No. 21,243.—JABEZ BURNS, of New York, N. Y.—*Improved Addometer*.—Patent dated August 24, 1858.—This invention consists in the toothed wheels $I^1\ I^2\ I^3\ I^4$, when arranged in the manner described, relatively to the index plates, in combination with the toothed wheels of the registering index cylinders, and with the stop, whereby the same teeth which actuate the wheels of the registering cylinder can be used as a means whereby to always turn the wheels the proper distance to accomplish any required movement of the registering cylinders.

Claim.—First. The toothed wheels $I^1\ I^2\ I^3\ I^4$, when arranged, in the particular manner described, relatively to the arc index plates J, in combination with the toothed wheels $b^1\ b^2\ b^3\ b^4\ b^5$ of the registering cylinders $a^1\ a^2\ a^3\ a^4\ a^5$ and stop j , substantially as and for the purposes set forth.

Second. The particular arrangement, in combination with the above, of pins $b^1\ b^2\ b^3\ b^4$ on the side of the finger-wheels $I^1\ I^2\ I^3\ I^4$, toothed segments $k^1\ k^2\ k^3\ k^4\ k^5$ and pins c on the sides of the registering cylinders $a^1\ a^2\ a^3\ a^4\ a^5$, for the purpose set forth.

No. 20,506.—JOHN OAKES, of New York, N. Y.—*Improved Heliographic Instrument for Taking the Sun's Altitude*.—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I have stated that the main object of my invention is to find the altitude of the sun when the horizon is obscured, but I by no means intend to confine its application to that condition, as it is obvious that it can be used as well when the horizon is visible; but it is under the former condition that it possesses an advantage over the quadrant and sextant.

I do not confine myself to the use of any particular sensitive preparation for the concave surface of the hemisphere.

But I *claim* the hollow hemisphere A, having its concave surface prepared with a sensitive coating, and having an orifice in the centre of its equatorial plane through which to admit the sun's rays, to act upon the said sensitive coating, substantially as and for the purpose set forth.

And I also claim the graduated plate G with its appendages, combined with the hollow hemisphere, substantially as described, for the purpose specified.

No. 22,396.—GEORGE C. AYLING, of Boston, Massachusetts, assignor to Himself and HENRY A. AYLING, of said Boston.—*Improved Instrument for Measuring Altitudes, &c.*—Patent dated December 21, 1858.—The principal new feature of this invention which distinguishes it from that described in United States patent No. 15,162, is to be found not only in an arrangement of the index glass with respect to the

detector glass so as to enable the latter to be moved either into parallelism with or at right-angles to the former, but in the addition not only of an index or vernier to the detector arm, but a divided arc therefor to the index plate, or that which supports the index glass.

Claim.—The arrangement of the index glass with respect to the detector glass so as to enable the latter to be moved either into parallelism with or at right-angles to the former, and combining with the detector glass and the main divided arc and index a secondary index and divided arc, applied to register the movements of the detector glass, substantially as described.

21,921.—SAMUEL S. YOUNG, of Eaton, Ohio.—*Improved Arithmetical Proof-Rule.*—Patent dated October 26, 1858.—This invention consists of an instrument of wood or any other suitable material, and of the manner of using said instrument or machine to accomplish the purpose intended, which is that of a perfect arithmetical proof-rule.

Claim.—The described instrument for proving the result of arithmetical calculations, when constructed and operated substantially in the manner and for the purposes set forth.

No. 21,941.—O. L. CASTLE, of Upper Alton, Illinois.—*Improved Arithmometer for Addition.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, combining the shaft D of the driving wheel C, which serves to give motion to the register, with the keys F F, by means of a series of ratchet wheels on the said shaft and a series of levers of different lengths which work on said shaft as a fulcrum, and are connected with the keys, when the whole are arranged as set forth.

Second. Combining the register wheels of lower denomination with those of higher denomination by means of the pawls *t t*, ratchet wheels *s s*, and stationary plates *u*, the whole applied, arranged, and operating substantially as described, for the purpose set forth.

Third. The springs *w w w*, with their elastic arms 13, applied to the register wheels, in combination with the stationary plates *u u u*, and their projections 14 14 14, to operate as and for the purpose set forth.

No. 22,075.—HENRY GLOVER, of New York, N. Y.—*Improvement in Astronomical Instruments.*—Patent dated November 16, 1858.—This invention has for its object measuring the angular distance of one or more objects from each other, and is an improvement on that class of reflecting instruments of the sextant and quadrant kind. By means of it the operator is enabled to measure, at one and the same time, not only the angular distance of two celestial or other similarly situated objects, but their altitude above the horizon also.

The inventor says: I *claim*, first, the use of the double reflectors or mirrors G G, in combination with a vertical sight, whether the said mirrors are fixed or made adjustable, substantially as set forth.

Second. I claim the second graduated arc E, in combination with

the main instrument A, and with the second mirror G¹, in the manner and for the purposes set forth.

Third. I claim the supplemental arc I, in combination with the level J, and with the main instrument A, in the manner and for the purpose set forth.

No. 22,125.—CALVIN KLINE, of Brooklyn, New York.—*Improved Method of Neutralizing Local Attraction of the Needle*.—Patent dated November 23, 1858.—The nature of this invention consists in the arrangement of one or more magnets in a horizontal position, below or above the needle of the compass whose opposite poles lie in the horizontal planes, having their common neutral centre in the needle's axis of rotation, and on opposite sides thereof; by which arrangement the opposite poles of the magnet, or magnets, are caused to act upon the needle to force it into the same direction; and in so applying the so arranged magnet, or magnets, as to make it, or them, adjustable on a centre coinciding as nearly as practicable with the vertical axis about which the needle turns, that their poles may be made to point in any direction necessary to compensate for the local attraction, and may have their direction varied to meet any variation in the point, or points of local attraction that may be produced by different cargoes or by other causes.

Claim.—Applying and arranging the magnet, or magnets, in a horizontal position, or positions, below or above the needle of the compass, with opposite poles in the vertical plane of the axis about which the needle turns, and on opposite sides thereof, and in such a manner as to be adjustable on centres lying in, or as nearly as practicable in, the vertical axis about which the needle turns, that their poles may be made to point in any direction necessary to compensate for local attraction and have such direction varied as may become necessary, substantially as herein set forth.

No. 21,435.—JOSEPH D. MANN, of Chelsea, Mass.—*Improvement in Calipers and Dividers*.—Patent dated September 7, 1858.—This invention relates to a novel means for adjusting and securing at any desired point the legs of the implement. It consists in having the ends of the legs which surround their pivots made circular and eccentric with the pivots, and having said circular portions toothed with a screw fitted between and gearing into them, by turning which the legs are operated or moved. The above parts are placed within a suitable socket, and the screw provided with a jam-nut to prevent the casual movement of the same.

Claim.—Having the parts *a* of the legs made of circular form geared or toothed as shown, and the screw C placed between them and gearing therein, the above parts being fitted within the socket B, and the screw provided with nuts E G, when arranged as described and for the purpose set forth.

No. 21,865.—THOMAS MORRISON, of New York, N. Y., assignor to AARON S. SOLOMONS, of said New York.—*Improved Chronometer Escapement*.—Patent dated October 19, 1858.—By the improvements in

this invention, first, the detent lever is perfectly balanced and is moved back and forth mechanically, so as to be free from all friction, and unimpeded by the detent spring.

Second. There being no spring, the resistance of which is to be overcome, the heavy balance wheel is unnecessary, and the friction, wear, and risk of breakage of its pivots is materially reduced.

Third. The expensive parts of the common chronometer are superseded by others of simpler construction and less cost.

The inventor says: I *claim*, first, Vibrating the detent of a chronometer (or single beat) escapement by direct mechanical action, substantially as described.

Second. I claim the detent lever vibrating on pivots or a staff, when operating in the manner set forth.

Third. I claim the arrangement and operation of the pallet *n*, in the manner and for the purposes specified.

No. 19,519.—HOLLY SKINNER, of Huron, Ohio.—*Improved Calendar Clock*.—Patent dated March 2, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* first. The extra movable tooth *m* and leap-year wheel *G*, applied to the year wheel *F*, to operate in the manner described, for the purpose of regulating the effective length of the tooth which represents the month of February.

Second. The arrangement of the month wheel *C*, its attached pinion *t* and pin *4*, the rack bar *H* and its pawl *q*, the spring *v*, or its equivalent, the lever *D E* and its stud *i*, or its equivalent, the catch *K* and the stop *7*, the whole being applied to operate upon and be controlled by the year wheel of a calendar movement, as and for the purpose set forth.

No. 19,472.—RUSSEL PECK, of Bristol, Conn., assignor to Himself and G. H. WOOSTER, of New York, N. Y.—*Improved Lathe for Cutting Tenons for Clock Movements*.—Patent dated February 23, 1858.—This invention consists in the employment or use of two cutter-heads attached to vibrating mandrels *C C*, so that both operate or move simultaneously, and using in connexion with the cutter-heads a clamp *J K*, peculiarly constructed with a gauge.

The inventor says: I do not claim any of the described parts separately or irrespective of the arrangement as shown, for they or their equivalents, when separately considered, have been used for analogous purposes.

But I *claim* the clamp formed of the bars *J K*, when arranged and combined with the mandrels *C C* and gauge *I*, substantially as and for the purposes set forth.

No. 19,351.—AARON D. CRANE, of Boston, Mass.—*Improved Public Clock*.—Patent dated February 16, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I *claim*, 1st. Winding up and renewing the motive power at regular intervals for keeping the pendulum in motion so as to supersede the necessity of winding up by hand, and so as to drive the pendulum independently of the other movements of the clock, by the arrangement of devices described, or their equivalents.

2d. I claim winding up the cord and weight that drives the pendulum, by means of the drop lever catch, or its equivalent, operating by its downward movement upon the hooked arm, and thereby turning the drum upon which the cord is wound, substantially as described.

3d. I claim the arrangement of devices for winding up every hour the cord and weight whereby the hands are kept in motion, in combination with the drop lever catch, whereby the escapements are operated in such a manner as to give an intermittent rotary motion to the wheel for carrying the hands and prevent its moving more than one tooth at a time.

And in combination with the foregoing, I claim the means employed for carrying the hour hand, the same consisting of the notched or tooth wheel, moving eccentrically and imparting the necessary motion to the wheel O¹, as set forth.

No. 22,413.—WRIGHT L. COFFINBERRY, of Grand Rapids, Mich.—*Improved Compensating Pendulum for Clocks*.—Patent dated December 28, 1858.—The nature of this invention consists in the combination of two metals of different degrees of expansibility so arranged and adapted as to completely overcome all the expansion and contraction of any simple pendulum rod, and can be used in any pendulum clock.

Claim.—The combination of two metals of different expansibility in the manner and for the purposes set forth.

No. 20,786.—STANISLAS FOURNIER, of New Orleans, Louisiana.—*Improved Registering Attachment for Clocks*.—Patent dated July 6, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: First. I *claim*, in combination with the clock, the wheel C by which I give motion to the wheel D that moves the rack F for a portion of the twenty-four hours; this I claim when either using the wheel D and the rack F, as set forth, or any other analogous mode by which the apparatus can be made to register substantially the same, as regards the time specified.

Second. I claim the carriage K, in combination with the rack F, when the action of the clock, through the use of the rack, or its equivalent, gives motion to the carriage, and holds the index bar M over the card, ready to have the time indicated, as already set forth, and for the purpose specified.

No. 22,388.—WILLIAM TUCKER, of Blackstone, Massachusetts.—*Improved Dynamometer*.—Patent dated December 21, 1858.—A grooved slider D encompasses the shaft and slides freely in a longitudinal direction thereon, it being prevented from turning on a shaft by a spline or feather *a*. It is formed with a groove *b* cut around and in its entire periphery to receive the fork *c* of a bifurcated lever or index pointer E, which works against a stationary divided arc or limb F, and turns on a fulcrum *d*. The slider D is connected with the pulley A by a screw connexion G, the same consisting in a male screw *e* extending from the side of the pulley centrically with the shaft, and made to screw into a female screw *f* cut in the slider.

Claim.—The combination of the grooved slider D, and its screw

connexion G, with the index pointer E, or its equivalent, and the spring C and pulley A, or its equivalent, applied to a shaft B, substantially as described, the slider having a feather connexion *a* with the said shaft, as explained.

No. 19,058.—JOHN E. EARLE, of Leicester, Massachusetts, assignor to Himself and SAMUEL SHEPERD, of Nashua, New Hampshire.—*Improved Mathematical Divider*.—Patent dated January 5, 1858.—In this improvement the spindle or axle D which passes through the inclined plane C connects the legs B B by pins E E. The inclined plane turns upon the axle, and having bearings upon the legs at points F F and G G, consequently when the inclined plane is turned upon the axle, and the highest part H is brought nearer the points F F, and the lower or thinnest part I towards the points G G, the extremities *a a* will be forced apart and remain in any desired position, and in like manner to open or close according as the inclined plane may be turned.

Claim.—Operating compasses, dividers, or calipers, by means of a circular revolving cam, as described.

No. 19,589.—ANTON SCHAEFER, of New York, N. Y.—*Improved Mathematical Dividers*.—Patent dated March 9, 1858.—*a b b¹ a¹* is a parallelogram applied to the divider, of which the joint pin 2 of the arms *a* and *b* is fixed in a stanchion P attached to pin 3, upon which the legs of the divider A and B turn. The lower part of the stanchion P is provided with a slot *o*, in which the joint pin 4 of the arms *a¹* and *b¹* works up and down. The arms *a* and *b* are lengthened and connected with the secondary legs A¹ and B¹, at a distance below their joints 5 and 6 equal to the distance from the pin 2 and 3.

Claim.—The application and use of a parallelogram to dividers, in the manner and for the purpose specified.

No. 21,041.—WILLIAM W. WYTHES, of Philadelphia, Penn.—*Improved Drawing Instrument*.—Patent dated July 27, 1858.—This invention consists of a beam A, on which is an adjustable point and an adjustable pencil-holder, so arranged in connexion with a disk, endless chain, and other devices, that a rotary motion is imparted from the disk to the pencil-holder, while the latter is on the adjustable centre, thus causing the pencil to produce a variety of figures, the form of which depends upon the relative position with each other of the above named parts.

The inventor says: I wish it to be understood that I do not desire to confine myself to the precise form or arrangement of the several parts illustrated and described.

But I *claim*, first, causing the adjustable pencil-holder to revolve as the beam is turned on the adjustable centre *m*, by means of the disk G, and endless chain I, with the wheels and pulleys, or their equivalents, acting in conjunction with the same, for the purpose specified.

Second. The adjustable sliding piece, K, with its spindle *q*, and adjustable pencil-holder L, when constructed and arranged as and for the purpose set forth.

Third. The spindle *d*, with its adjustable bar *N*, and pulley *f*, and the spindle *e*, with its adjustable bar *N*, and pulley *h*, in combination with the adjustable point *m*, and endless chain *I*, the whole being arranged on the beam *A*, substantially in the manner and for the purpose specified.

No. 19,642.—JOSEPH LACASSAGNE and RODOLPHE THIERS, of Lyons, France.—*Improved Apparatus for Regulating and Measuring the Intensity of Electric Currents*.—Patent dated March 16, 1858.—This apparatus is founded upon the combination of the following three well known principles :

First. When a galvanic current is made to pass through a liquid that is less conducting than the wires of the battery the intensity or quantity of electricity set in motion in a given time is inversely proportional to the resistance which it experiences passing through the liquid, and this resistance may be regulated either by increasing or diminishing the conducting powers of the liquid or by increasing or reducing the number of contact points immersed in the same.

Second. When the surfaces of the conductors immersed are of such metal as is not attacked by the liquid, platina for instance, gases may be obtained in the free state which are evolved by decomposition of the liquid by the electric current, the quantity of gas obtained being proportional to the intensity of the current or to the quantity of electricity to which the immersing liquid has given passage.

Third. The attracting power of an electro magnet varies, *cæteris paribus*, in the same proportion as the intensity of the current which creates the same.

Claim.—Combining the application of the three principles specified, so as to form an apparatus for regulating and measuring the force or intensity of the electric current produced by any battery, and applicable to telegraphing and motive purposes, substantially as set forth.

No. 19,766.—SAMUEL GARDINER, Jr., of New York, N. Y.—*Improved Method of Lighting Gas by Electricity*.—Patent dated March 30, 1858.—This invention relates to the lighting of gas as it issues from a burner by the heat generated by the passage of a current of electricity through a coil of platinum *b* wire, forming part of an electric conductor, and placed near the orifice of the burner. It also relates to the employment of a platinum coil near a burner to be heated by the flame to a sufficient degree to reignite the gas if the light should be extinguished.

Claim.—Placing a coil of platinum wire, or its equivalent, in the relative position to the jet of gas, as described, for the purpose of lighting the jet by electricity, and for the reigniting it when blown out, under the circumstances and for the purposes set forth.

No. 21,781.—CHARLES W. SMITH, of Evans, N. Y.—*Improved Method of Lighting Street Lamps by Electricity*.—Patent dated October 12, 1858.—The nature of this invention will be understood from an examination of the claim and engravings.

The inventor says: I *claim*, first, the combination and arrangement

of a circuit-changer with different circuits of conducting wires, in which are included a number of street lamps, in such a manner that the lamps in one circuit only may be lighted simultaneously by means of the battery current.

Second. The combination of conducting wires with devices for operating by electricity such a circuit-changer at a station remote from the operator.

Third. The arrangement of the magnet A, the brass plate C, the lever D, and the pawl E, substantially as and for the purposes described.

No. 19,460.—ARCHELAUS WILSON, of Boston, Mass.—*Improved method of lighting Gas by Electro-Galvanic Batteries*.—Patent dated February 23, 1858.—The circuit of the battery F being closed, the coils E are rendered magnetic, and the armature G is drawn towards them as far as allowed by the regulating nuts on the pin S; this vibrates the rods O and brings the thin platina wire *o* immediately over the openings in the tip *g*, at the same time the points L are brought into contact with the elastic strips K, which are connected with the two poles of the battery I, and the circuit of this battery is closed, by which the wire *o* becomes heated and ignites the gas as it escapes from the tip.

The inventor says: I *claim* combining with a gas or other burner a vibrating electric conductor, substantially as and for the purpose specified, so that after producing ignition the conductor shall be removed from the flame, substantially as described.

And I also claim the employment of the motive power of an electromagnet with the combined vibrating electric conductor and burner, substantially as described.

No. 19,176.—LEWIS TROOST, of Mobile, Alabama, assignor to JOHN A. M. BATTLE, of Mobile, Alabama.—*Improved Method of Registering the speed, back and forward, and distances passed over by Railroad trains by means of Electro-Galvanic Batteries*.—Patented in England June 15, 1857; patented in France June 18, 1857.—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I wish it to be particularly understood that I do not confine myself to the use of any of the particular mechanical devices described, nor to the use of any particular marks or characters in the several registrations, as such may be varied and modified without departing from the principle of my invention.

But I *claim*, first, the method described of recording the performance of a railway train on its journey by the combination of a registration of time, and one or more registrations of distance, such registrations being made in lines parallel with or contiguous to each other, to show by comparison with each other the speed, movements, and stoppages of the train, substantially as specified.

Second. The indication of the backward movements of the train by a registration of a different character to that of the forward movements, but in the same relation to the registration of time, so as to show the time occupied and the distance passed over in backing, and

to enable such distance to be deducted from the distance run forward, and the distance run from the starting point to be correctly ascertained.

No. 19,132.—STEPHEN D. CARPENTER, of Madison, Wis.—*Improved application of Electro-Magnetic Batteries to car brakes*.—Patent dated January 19, 1858.—This invention consists in attaching two electro-magnets to the shoe-bars of each pair of wheels, one to each bar, whereby the power will be applied in the most direct manner.

The inventor says: I do not claim, broadly and irrespective of the arrangement shown, the application of electro-magnets to car brakes for operating the same.

I *claim* the employment or use of electro-magnets, one or more, attached directly to the bars C and springs G G, for the purpose set forth.

I further claim the particular manner of attaching the magnets to the shoe-bars, viz: by means of the links *b* and screw bolts *c*, substantially as shown, whereby the magnets may be adjusted for the purpose of graduating the pressure of the shoes upon the wheels when the circuit is closed.

No. 21,105.—FREDERICK YEISER, of Lexington, Kentucky.—*Improved Electro-Magnetic Engine*.—Patent dated August 3, 1858.—This invention consists in a certain system of balanced beams or frames carrying soft iron bars at each end, applied to be operated upon alternately by two series of electro-magnets in such a manner as to receive an oscillating motion, and having combined with them certain mechanism through which their oscillating motion is caused to produce the rotary motion of a shaft.

Claim.—The employment of a series of balanced beams F with bars G, arranged and combined with the magnets C, frame H, and rods J, substantially as and for the purposes set forth.

No. 22,071.—MOSES G. FARMER, of Salem, Mass.—*Improved Electro-Magnetic Fire Alarm Apparatus*.—Patent dated November 16, 1858. This invention consists in the employment of the snail and dial of the well known clock striking movement, with a lifting piece or key, in combination with an electric circuit and a means of making and breaking the circuit.

The inventor says: I *claim*, first, the dial, the snail, the key or lifting piece A 2, in combination with an electric circuit and with the means of making and breaking the circuit, for the purpose of striking a definite number of blows upon one or more bells, and of repeating the same, and of registering or indicating the number of the blows so struck, as described.

Second. The arrangement of the circuit lever *l*, the lifting piece A 2, and pin *i* 2, so that the circuit shall be closed on the dropping of the lifting piece from off the pin, as set forth.

Third. The arrangement of the circuit lever *e*, rack W, operating in the manner set forth, whereby the circuit is completed by the falling of the rack, and broken when the required number of blows have been struck, as set forth.

Fourth. The combination of the circuit levers *l* and *e*, operating in the manner substantially as set forth for the purpose described.

Fifth. I claim the arrangement of the arm f , the arms a and b , or their equivalents, for the purpose of effecting electric communication alternately with the time magnet D, and the striking magnet H, essentially as described.

No. 20,970.—WILLIAM WHITING, of Roxbury, Mass.—*Improved Electro-Magnetic House Alarm*.—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The improved house alarm described, consisting of a combination of the following elements, viz: First, a series of electro-magnetic circuits B; second, an indicator B, to designate the respective circuits; third, an alarm apparatus; fourth, the window or door springs i —the whole operating as set forth to sound the alarm, and indicate the circuit attacked.

No. 19,042.—GEORGE M. PHELPS, of Troy, N. Y.—*Improvement in Electro-Magnetic Speed Governor*.—Patent dated January 5, 1858.—This improvement consists in causing any suitable governor or indicator, of variable motion, to regulate the speed of the machine or instrument with or by which such governor or indicator is driven, by making the governor or indicator control and regulate, by closing and breaking the electric circuit, the motive action of a current of electricity upon an electro-magnet, or other electro-magnetic device arranged to work, or to regulate the action of whatever contrivance or mechanism is employed to change the speed of the machine.

Claim.—Causing a centrifugal or other suitable speed governor to regulate the motion of the machine or instrument with, or by which such governor is driven, by making the governor close and break a current of electricity, which operates an electro-magnetic contrivance, arranged to work whatever device or mechanism is employed, to change the speed of the machine or instrument, as described.

No. 22,347.—E. G. CHORMANN, of Philadelphia, Pa.—*Improved Ellipsograph*.—Patent dated December 21, 1858.—E is a semi-circular plate, having formed in it a curved slot b , concentric with the pin p . Said slot is to accommodate a thumb screw a , which projects through it from the arm D, and by which the said arm D is retained at any point in its arc of motion.

Claim.—I claim, first, constructing the shoes i and i' in two parts swiveled together as specified, in combination with the adjusting screw shaft d^1 , the whole arranged and operating as described.

Second. In combination with the screw adjustment of the movable shoe, the arrangement of the pencil or dry point carrier f , on a screw shaft C, in order that the relative lengths of the axes may be readily varied to the smallest extent, or a series of concentric ellipses be drawn varying very slightly in size.

Third. Arranging the drawing apparatus with a vibrating adjustable arm D, on a vertically adjustable arm B¹, as described for the purpose set forth.

No. 19,759.—GEORGE DOYLE, of Ottawa, Illinois.—*Improved Device for Preventing Corrosion of the Binding Screws in Galvanic Batteries.*—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Making the connexions of the battery by fitting the jars with covers B of glass, glazed or enameled earthenware, gutta percha, or other insulating substance, with holes *a* in them to receive the shanks *b* of the binding screw sockets, and screwing the said sockets through the said holes into the clamps for the plates with interposed washers of India rubber, leather, or similar protecting material, all substantially as described.

No. 19,245.—JOSEPH ELMENDORF, of Penn Yan, New York.—*Improved Method of Attaching the Electrodes to the Poles of Galvanic Batteries.*—Patent dated February 2, 1858.—The nature of this improvement consists in a method of uniting the poles with the zinc and platinum plates, whereby greater constancy and uniformity of action is secured. In this improvement the binding screws are entirely dispensed with. The connexions are formed with a fusible alloy of the following composition: 20 parts of pure tin, 10 parts of cadmium, 1 part of bismuth. Small brass sockets K K are soldered to the zinc and platinum plates into which the wires are inserted, and a drop of the alloy secures them.

Claim.—The method of attaching the electrodes by means of a fusible alloy composed of the ingredients and proportions substantially as specified.

No. 19,209.—EBENEZER SEAVER, of Boston, Massachusetts.—*Improved Galvanic Battery.*—Patent dated January 26, 1858.—A is the tub or vessel containing the solution of the sulphate of copper, which is maintained at the point of saturation in any suitable manner; B is a porous cup of a diameter sufficiently great to enclose the porous cup C, which contains the zinc D. When the battery is set up the vessels A and B are filled with a saturated solution of sulphate of copper, and the vessel C with pure water; the solution within the cup B is soon reduced in strength and recruits itself from the vessel A. The solution within the vessel A may thus be kept saturated, while that within the cup B will be weaker, the latter remaining, so long as the battery is in constant use, of a uniform strength.

Claim.—The employment of two or more porous cups, the one within the other, in the manner and for the purpose substantially as set forth.

No. 22,029.—JOSEPH R. PALMENBERG, of New York, N. Y.—*Improved Galvano-Electric Machine.*—Patent dated November 9, 1858.—A is a wooden block in which the battery B and the necessary stands, cups, &c., are fastened. The coil or helix of copper wire C is secured inside the block A, as well as the spring-hammer D, and the whole is then covered by a plate E having a provision for milled head screw F to pass through, for the purpose of regulating the spring-hammer D.

Claim.—The arrangement and construction of a magneto-galvano-electrical machine, in the manner substantially as described, having

the helix and spring-hammer, &c., situated in the inner part of the block or stand which supports all the other parts, and protected from any external danger through which the action of the apparatus might be deranged, substantially as specified.

No. 19,392.—J. W. WETMORE, of Erie, Pa.—*Improved Gravimotometer*.—Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* the new use of magnetic induction to form a gravimotometer, by means of the magnets on the equator of the globe A, so that when A is revolved on the vertical axis it will cause the iron globe B to revolve in an orbit about A, and also on its vertical axis.

I also claim the machine described as an improved orrery, because the revolutions correspond in cause and directions with the actual revolutions of the planets, all substantially as set forth.

No. 20,326.—CHARLES L. CLARK, of Rochester, N. Y.—*Improved Device for Actuating the Index of Hygrometers*.—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim to have invented the employment of a twisted cord operating on the principle described, to indicate the hygrometric condition of the atmosphere.

But I *claim* the combination of the slotted weight D with the shaft E, as shown and described, whereby shaft E is actuated by the horizontal rotation of weight D, without obstructing the vertical movement of the latter.

No. 22,378.—JOSEPH REDHEAD, of Woodville, Miss.—*Improved Self-Adjustable Levelling Instrument*.—Patent dated December 21, 1858.—A represents a metallic case, made like an ordinary compass case, in which are arranged two bubbles *a b* at right angles to each other, so as to indicate when the case is level. There is a cross-bar *c* underneath the case, which can move on pins or studs *d d*, firmly connected to the bottom of the case, there being spiral or other openings *e e* between the bar and case, and nuts *f f* run over the screws on the ends of the studs for adjusting the cross-bar to the case. This cross-bar has four arms extending at right angles to each other, and the two bubbles may be placed so that one shall lie over the line of each pair of arms of said cross-bars.

A steel point *i* directly under the centre of the instrument is fastened to the cross-bar *c*, and a rod *n*, to the lower end of which is a ball or counterpoise *m*, is also connected with the cross-bar.

Claim.—Combining with the dish or case A an inclined rod and ball or weights *n*, so that when said case is set upon an inclined staff by its steel point the ball will swing in the case into a level position for the purpose of making a levelling instrument for ascertaining the ascent or descent of ground, as set forth.

No. 19,819.—OREN WHITE, of Racine, Wisconsin, assignor to HENRY C. JAMES, of said Racine.—*Improvement in Lightning Conductors*.—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, a lightning conductor consisting of iron wires enwrapped by sheet copper, for the purpose of increasing the strength and the conducting power of the rod without materially lessening its flexibility or greatly increasing the expense of manufacture, as set forth.

Second. The sheet metal joint or clutch L, for connecting the additional rods or points to the main rod, as described.

No. 20,916.—VICTOR SCHRAGE, of Cincinnati, Ohio.—*Improved Device for Securing Lightning-Rods*.—Patent dated July 13, 1858.—The nature of this improvement consists in the combined arrangement of a spring *d* with the insulator *a*, with which the rod J is attached and detached with the insulator without having to slip the insulators over the ends of the rods in attaching the rods to buildings.

The inventor says: I am aware of other attachments being made for the same purpose, and therefore do not broadly claim attaching and detaching rods after this manner.

But I *claim* the spiral spring *d* as constructed and arranged to the insulator *a* in the manner and with the means represented for the purposes described.

No. 21,905.—ELKANAH C. ROGERS, of Boston, Massachusetts.—*Improved Method of Insulating and Supporting Lightning-Rods*.—Patent dated October 26, 1858.—The insulator cap, as shown in the engravings, is cylindrical in form, and made hollow to receive an insulating cylinder E, made of glass, wood, or other suitable material, by which the cap may be electrically insulated from the shank, or part F, which serves to support it. The supports of the two insulators D D² are shown as sustained in position by screws *f*.

The inventor says: I *claim* making the insulator cap *c* with the adjustable or turning loop *a* applied to it, and arranged so as to operate substantially as described.

I also claim combining with the rod, or conductor, an adjustable rest G applied to it and the insulator cap, substantially in the manner and so to operate as specified.

I also claim combining with or arranging in the cap *c* of the insulator, and with respect to the insulating material, an annular ring L, applied substantially in manner and for the purpose set forth.

No. 22,188.—N. N. McLEOD, of St. Louis, Missouri.—*Improved Supporting Insulator for Lightning-Rods*.—Patent dated November 30, 1858.—This invention involves no new principle in insulation, but consists in providing a more efficient, economical, and convenient means of securing the rod to the building, or rather in securing the rod to the insulator and the insulator to the building.

The inventor says: I *claim* so cutting the groove in the edge of the

glass as to form the elliptical body, shown at A^1 , whereby the insulator is attached to the building in the manner described.

And I also claim the combination of the two straps $d d$ with the glass and with the pointed conductor, constructed and arranged substantially in the manner set forth for the purpose specified.

No. 19,379.—NATHANIEL PARKS, of Rome, New York.—*Improved Receiving Magnet*.—Patent dated February 16, 1858.—A A^1 A^2 is the electro-magnet, B B^1 the helices. The leg A^2 of the magnet fills only a part of the bore of the helix, the remaining space being left for the vibrations of the permanent magnet a . In contact with the leg A is an adjustable piece of soft iron C, the end of which is made to approach the magnet a and attract it, thus combining the repulsive and attractive forces in moving this magnet whenever the electro-magnet is charged.

The inventor says: I *claim*, of my improvement in receiving magnets for telegraphs, opening and closing the circuit by means of a vibrating permanent magnet enclosed within one of the helices, together with an electro-magnet, and operated upon by both poles of the electro-magnet in the manner set forth.

No. 22,411.—JOB BROWN, of Lawn Ridge, Illinois.—*Improvement in Grain Measure*.—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—As an improved article of manufacture, a grain tally, having a slide H operated by a pendant g and spring I, a lever F, pall E, ratchet-wheel D, and indicating belt C; the whole combined and arranged as shown and described.

No. 20,186.—GEORGE W. ATKINS, of Milton, Delaware.—*Improvement in Self-Regulating Grain Measurer*.—Patent dated May 11, 1858.—The nature of this invention consists in so arranging and combining together a spring platform B and a pair of ratchet-wheels C C^1 , with pawls and springs attached, that when the usual measure of grain is placed upon the platform it shall cause the latter to descend a short distance, moving a pawl, which is attached thereto, and as the said measure is lifted off the said platform shall spring upwards, so as to cause the said pawl to force round the ratchet-wheel the length of the notch which it has just previously passed over, and at the same time indicate the movement *audibly* by a bell v , and also *visibly* by an index hand E^1 , and so that the said ratchet-wheel, on the completion of each full rotation on its axis, shall let go a spring lever, which is connected by a pawl with a second ratchet-wheel, so as to cause it to move the latter round on its axis the length of one of its notches, causing it to indicate the movement both *audibly* and *visibly*, the axis of each ratchet-wheel carrying the point of an index hand around a dial plate which is numbered.

The inventor says: First, I *claim* the arrangement of the platform B in combination with a box or case A, so that the said platform shall have an up and down motion, by turning as a lever upon the hinge H, or its equivalent, and being supported by means of the double

cross-lever G and spring F in such a manner as to yield downwardly under the weight of the measure of grain when it is placed thereon and spring upwardly on moving the same, substantially in the manner and for the purpose set forth and described.

Second. I also claim, in combination with the said ratchet-wheels, pawls, lever, indexes, and platform, arranged and operating together substantially as described, the two bells *v* and *y*, or their equivalents, for the purpose of indicating audibly both the single and hundreds of measures of grain registered by the index, as described.

No. 22,241.—E. A. PRESTON, of Battle Creek, Michigan.—*Improved Method of Measuring and Recording by the Tape*.—Patent dated December 7, 1858.—The nature of this invention consists in arranging the tape measure on a barrel containing a spring for the purpose of drawing in the tape in such relation to the drum that the tape while it unwinds from the barrel passes over a certain portion of the surface of the drum and causes the same to rotate; said drum being so arranged by means of a ratchet-wheel and pawl that it is free to rotate in one direction, while the pawl and ratchet-wheel prevent its rotation in the other, so that by the rotation and a certain arrangement of gear wheels the amount of tape drawn out during a number of consecutive operations is registered by hands moving on a dial with required marks and figures on the face of the box containing this arrangement.

Claim.—The described arrangement of a tape measure whereby the same is made self-registering by means of the drum E, the pawl *f*, and the ratchet-wheel F, in combination with the spring *c*, arranged in the barrel D, and with the pinions G H I and J, and the wheels G¹ H¹ I¹ and K, constructed and arranged substantially as set forth.

No. 19,031.—SENECA C. KENNARD, of South New Market, N. H.—*Improved Machine for Measuring the Superfices of Boards*.—Patent dated January 5, 1858.—In operating this machine a board to be measured by it is laid on the top surface of the table A, and with one edge close against the inner surface of the ledge B, the other edge of the board being pressed upon by the lever C or wheel F. If, under these circumstances, a board be moved endwise through the machine the roller F will be put in motion and will communicate with the disk *k*, which in its turn will rotate the wheel *l*, whereby motion will be imparted to the index pointer *n* on the divided limb or index plate *o*.

Claim.—The combination of the stationary ledge B, or its equivalent, the arm or lever C, the mechanism carried by such lever and the indicator apparatus; the whole being constructed and made to operate substantially in the manner and for the purpose set forth.

No. 19,153.—CHARLES W. RICE, of Worcester, Massachusetts, and JOHN E. HARRINGTON, of Millbury, Massachusetts.—*Improvement in Compound Pendulum*.—Patent dated January 19, 1858.—In this improvement the rod A is constructed in the usual form at the top, for the purpose of suspending it and connecting the lower end of the rod to the hook L that holds the pendulum weight R by means of the

strap D, or its equivalent. This strap may be made in one piece, passing around the ends of the bar B, or of two pieces with their ends fastened to the end of the bar. The strap is connected between its two outer angles *o o* by an adjustable expansive bar or connexion B, by which the distance between these two angles of the strap may be increased or diminished.

The inventors say: We *claim*, first, the adjustable connexion B, or its equivalent.

Second. The strap D, by altering the angles of which we are enabled to increase or decrease the effect of the expansion and contraction of the connexion B in raising or lowering the weight R of the pendulum, all substantially as described.

No. 19,479.—DANA BICKFORD, of Westerly, Rhode Island.—*Improved Compound Pendulum*.—Patent dated March 2, 1858.—As the rod A expands by increased temperature it allows the lever cross-piece to descend, but the rods C C expanding upwards at the same time slide the clamps F F up the rod A, and the rods E E expanding in a greater degree downwards from the clamps F F depresses the ends of the levers G G, upon which they bear, and cause the other ends to be raised, and to raise the weight B on the rod A. A contrary effect is produced when the rod A contracts.

Claim.—The arrangement and combination, substantially as shown and described, of the rods E, levers G, and the bob B, so that by the expansion and contraction of rods E the position of bob B upon the rod A will be changed for the purpose set forth.

No. 19,798.—ANDREW SLEVIN, of Ann Arbor, Mich.—*Improvement in applying Pendulum Power*.—Patent dated March 30, 1858.—The nature of this invention consists in a pendulum G fixed on shaft H, moving on two friction rollers W; on the shaft H there are two bevel-wheels I and J fitted loosely to said shaft H and gearing into the pinion L; on the upright shaft N V V are two ratchets, placed reversely to each other and keyed on shaft H; U U are two pawls attached to the two bevel-wheels I and J and operating on the ratchets; K is a bevel wheel on the lower part of the upright shaft N and gearing into the pinion M on shaft Q; O is a fly-wheel on shaft Q; R is a crank on end of shaft with a connecting rod S to the projecting arm T.

The inventor says: I am already aware that bevel-wheels, pawls, ratchets, pendulum, &c., have been heretofore in use for some mechanical purpose or other, and therefore I do not claim any one of them separately, nor do I claim the bevel-wheels, pawls, and ratchets, causing thereby of themselves rotary motion.

But I *claim* the peculiar combination of the pendulum, bevel-wheels, pawls, and ratchets above specified, for the purpose of obtaining a rotary motion from the reciprocating motion of the pendulum for the uses and purposes described and set forth.

No. 19,091.—CHARLES R. ILIFF, of Falmouth Ky.—*Improved Plotting Instrument*.—Patent dated January 12, 1858.—This instrument is composed simply of two limbs, one of which has its short end formed

with a quadrant or arc of a circle, said arc being graduated or laid off in degrees and minutes and subdivided into equal parts, as shown in the engravings.

The inventor says: I am fully aware that quadrants, graduated scales, and verniers have been used for various purposes, consequently I do not claim the invention of such devices.

But I *claim* the construction of a portable pocket plotting instrument, embracing the graduated arc of a circle, or quadrant, the pointed graduated limbs and the sliding-scale verniers, substantially as described and for the purposes set forth.

No. 19,817.—JOHN L. ROWE, of New York, N. Y., assignor to FREDERICK STEVENS, of said New York.—*Improved Method of Attaching the Plumb Line to a Plumb and Level Indicator*.—Patent dated March 30, 1858.—This invention consists in placing within a suitable case A a levelling spirit-tube B, a loaded index D fitted or hung over a graduated arc *a* and a plumb-line. On the shaft E a line or cord H is wound which has a bob I attached to its end.

The inventor says: I do not claim the employment of two spirit-levels.

Nor do I claim the employment of a pivoted-pointer to indicate the plumb.

But I *claim* the attachment to a plumb-level indicator, made substantially as described, of the reel E and cord H, as and for the purposes set forth.

No. 20,356.—JOSIAH LYMAN, of Lenox, Mass.—*Improved Protractor*.—Patent dated May 25, 1858.—P represents the protractor graduated at 70° (seventy degrees) on each side of zero. It is made of rolled brass one-eighth of an inch thick. N. denotes north, E. east, and W. west. The figures on each side of N. indicate degrees of arc or angle and the complement of the same. V denotes the protractor vernier, reading to minutes of bronze one-eighth of an inch thick; P *o* denotes the pivot orifice; O, three orifices for lessening the weight; Pr. is the protractor rule, made of steel plate, three feet long from the protractor face, two inches wide, and one-sixteenth of an inch thick, riveted to the protractor proper.

Claim.—First. The arrangement of the several verniers, limbs, scales, and rule, in one instrument, in the manner described for the purposes set forth.

Second. The peculiar arrangement of the sliding vernier scale by which it can be applied with equal readiness and facility to either side of the rule so as to read the given angle and its complement.

No. 19,062.—JAMES C. LANE, of Brooklyn, N. Y., assignor to Himself and T. H. BARNES, of New York, N. Y.—*Improved Method of determining the Artificial Horizon for Quadrants, &c.*—Patent dated January 5, 1858.—In describing his improvement the inventor says: To a sextant of the usual construction, with an index glass, horizon glass, and eye-piece, I add a vertical mirror or reflecting surface *a*,

the plane of which is perpendicular to a continuation of the visual ray passing from the eye-piece and intersecting a hair line b , or its equivalent, which is placed in the frame of the horizon glass or at any point between the mirror a and the eye where it can be seen by the eye with or without the aid of a lens.

Claim.—The combination of the eye-piece, hair-line, and vertical mirror, when attached to and used in connexion with a sextant, quadrant, or similar instrument, in the manner and for the purpose set forth.

No. 22,081.—CHARLES T. LIERNUR, of Mobile, Ala.—*Improved Method of Registering Speed of Railroad Trains.*—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: First. I *claim* in the indicating apparatus the governor A B C D E placed in the lower part of a casing which can be used as a car-seat, said governor having its weights so united by connecting-rods and levers as to cause them to remain in their centrifugal and centripetal action, uninfluenced by any horizontal jars and shocks of the car.

Second. I claim the compensation beam K, or its equivalent, with its rods and levers, to bring over the motion of the cross-head of the governor to the indicator, so arranged as to cause the vertical jolts and jars received by the various moving parts to absorb one another, and the indicator X which points out the degrees of speed on the index W, the whole so arranged as to enable passengers and conductors to be constantly informed of the exact speed of the train, as substantially described.

Third. In the registering apparatus I claim the circular register of metallic or other paper with its radiating and circular lines expressive of distance and speed, said register receiving any degree of retarded motion from the car axle by means of the worms B¹ and B² and the worm wheels C¹ and D¹, and the pencil-holder Z with its adjustable pencil, substantially as described above, the whole so arranged that the various degrees of speed on all parts of the road shall be noted down on the circular register.

No. 21,101.—S. LLOYD WIEGAND, of Philadelphia, Pa.—*Improved Method of Registering the Motion of Machinery.*—Patent dated August 3, 1858.—The nature of this invention consists in the combination of a series of zones B B¹ B² or wheels containing numeral characters, with a series of pawls or ratchets E E¹ E² moved by a lever D and susceptible of rotation thereby, used in conjunction with a case A, which has sufficient friction upon the zones to retain them in the positions in which they are placed by the ratchets, and also to impart a rotative motion to the zones when it is desired to reverse the direction of their motion.

The inventor says: I *claim*, first, reversing the motion of the zones or indicating dials by friction applied to them in the manner set forth.

Second. The arrangement of the spring L, to act as a detent in reversing, in the manner described.

No. 19,105.—L. C. STEVENS, of Pine Meadow, Conn.—*Improved Carpenters' Rule*.—Patent dated January 12, 1858.—The claim and engravings describe the nature of this invention.

The inventor says: I do not claim any of the parts composing this instrument when received separately.

But I *claim* a measuring-rule made as set forth, viz., having a movable blade and spirit level attached thereto, as described, the whole constituting an instrument which may be used either as a rule, square, level, level plumb, indicator, &c.

No. 20,943.—WILLIAM O. C. FRITSCHLER, of Brooklyn, N. Y.—*Improved Carpenters' Rule*.—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement and combination of the level *a* with the movable arm *i*, furnished with a spirit level upon the centre, so that by means of the arc *g* and the screw *h* the glasses *c* and *d* may be so placed as to indicate the precise position in relation to the "plumb and level," whatever may be the variation of angle the part *b* may necessarily assume, the said variation being indicated by the scale on the arc *e*, all of which is fully described.

No. 21,784.—MERRIWETHER JEFF THOMPSON, of St. Joseph, Mo.—*Improved Rule for Describing Polygonal Forms*.—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: Being fully aware that instruments have been employed formed with segments of circles and arc having graduation degrees and semi-degrees described by radial lines proceeding from one common centre; therefore such graduations, calculations, and arrangements of lines and figures I do not claim.

But I *claim* the construction, use, and application of a mitre bevel gauge formed with an arc of a circle, whereon are described various given tabular numbers so as to indicate by fixed lines, angles, or dots, any required mitre line indicating its respective polygonal shape and measurement (without describing and subdividing a circumference,) but through means of corresponding tabular numbers, substantially in the manner set forth and described.

No. 20,431.—WILLIAM HOWARD, of Flushing, N. Y.—*Improved Signal Lantern*.—Patent dated June 1, 1858.—This invention consists in the employment of a conical and convex reflector, so contrived and arranged as to form a chamber for the reception of the lamp, and at the same time throw the light in a concentrated form on a lens, which is placed on the smaller end of the conical reflector.

Claim.—The arrangement of the conical reflector B with its large end placed towards the deflector D, as set forth and described.

No. 20,706.—SAMUEL GARDINER, jr., and LEVI BLOSSOM, of New York, N. Y.—*Improved Electric Signal Lights*.—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The combination of a platinum coil C, or its effective equivalent

lent, which is illuminated by electricity with a transparent signal lantern B; said combination being effected by arranging the coil C within the lantern B upon two conducting wires D D, which are connected with an electro-galvanic battery.

No. 21,656.—JACOB D. CUSTER, of Morristown, Pa.—*Improvement in Fog-Signal Machines*.—Patent dated October 5, 1858.—The nature of this invention consists in furnishing fog-signal machines, magnetic telegraph registering machines, &c., with a spur wheel and pinion-retaining power, on the reaction principle which shall be convenient to graduate so as to keep the proper balance of power in time of winding, so that the machine shall not lose or gain, and which retaining power shall be convenient to oil, and as durable as any other parts of the machine; the spur-wheels and pinions all being on the outside where they can be made as strong as desired.

The inventor says: I *claim* the application to fog-signal machines, magnetic telegraph registering machines, &c., of my improved retaining power, including pinion I, wheel J, shaft K, pinion L, wheel Q, click spring o, and balance piece H, when arranged and combined as above described, to form an adjustable and durable retaining power, substantially as set forth.

No. 21,688.—HENRY MAULE, of Philadelphia, Pa.—*Improvement in the Mode of transmitting Magnetic Signals on Railroads*.—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Securing to a railroad a series of conducting rails independent of those of the track, and placed in pairs, one pair being disconnected from the next pair throughout the series, and each pair of conducting rails being arranged to connect with a galvanic battery on the train by the devices described, or their equivalents, one rail of each pair to one pole, and the other to the other pole of the said battery, and the latter being connected to any suitable indicating apparatus situated on the train as set forth and for the purpose specified.

No. 20,402.—WILLIAM BOYD, of Washington, D. C.—*Improved Mechanism for Operating Semaphoric Signals*.—Patent dated June 1, 1858.—The nature of this invention consists in the combination and arrangement of parts for actuating three conical flags stretched on frames, their colors being red, white, and blue. Each can be moved irrespective of the others by means of a pulley and cord, or their equivalents, and each moves on its axle independent of the action or movement of the other two flags. By means of a sliding pole working in grooves of a frame the flags can be hoisted and lowered at pleasure.

The inventor says: I do not claim broadly signalizing by revolving signs or flags, whose position represent certain figures, letters, or numbers.

But I *claim* the particular mechanism, described and shown, for operating such signs or flags when combined and arranged substantially as set forth.

No. 20,046.—GEO. N. CUMMINGS, of Hartford, Conn.—*Improvement in the Mode of Constructing Joints*.—Patent dated April 27, 1858.—The nature of this improvement consists in the formation of an improved joint to the connexion of the temple bow with the rim of the glass frame.

Claim.—The double conical-shaped tube joint D to spectacles, in the manner substantially as set forth and described.

No. 21,982.—CHARLES A. SAXE, of Philadelphia, Pa.—*Improved Method of Adjusting the Plummets without moving the Tripod in Surveying Instruments*.—Patent dated November 2, 1858.—The nature of this invention consists in constructing the head of the tripod and lower plate of the instrument or ball plate, upon which rest the levelling screws, in such a manner that the ball plate to which is attached the instrument may be moved, and thereby bring the centre or axis to any point within the circle of the head plate.

Claim.—The arrangement described for placing surveying instruments' centres over any point within the circle K without moving the legs of the instrument and unscrewing the levelling screws, but by unscrewing the screws C C, moving the ball plate A, and revolving the ring H, as described.

No. 20,908.—J. M. WAMPLER, of Baltimore, Md.—*Improved Automatic Mechanism for Operating the Surveyors' Graphodometer*.—Patent dated July 13, 1858.—The nature of this invention consists in the combination in a suitable vehicle of automatic mechanism for recording courses, distances, and levels.

In the engravings A marks the frame of the machine; B a roll of paper on which the results are recorded; C the axle of the last retarding wheel; D a box having two compartments; E E¹ are rollers over which the record paper passes; F F¹ are rollers to keep the paper in place by pressure; G are guides for pencil bars; H a bar to which weight W is swung; I the connecting joint between H and t; K is a bent lever connecting weight W with pencil bar Y.

Claim.—The combination with a moving strip of paper, or other proper material, arranged on any suitable vehicle of automatic mechanism for taking and recording distances and courses or distances and levels, or distances, courses, and levels, substantially as described and shown.

No. 19,356.—JOHN A. FINN, of Simpson county, Ky.—*Improved Surveyors' Protractor*.—Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and illustrations.

Claim.—The forming of two concave protractors and combining them with a convex protractor, square and scale of admeasurement, so as to form one instrument, by which plotting of every description may be done with greater facility and equal if not superior accuracy.

No. 20,915.—WILLIAM J. YOUNG, of Philadelphia, Pa.—*Improved Tripod Head for Surveyors*.—Patent dated July 13, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Constructing the head of a surveyors' tripod in such a manner that the portion to which the instrument and plumb line are attached may be adjustable in any direction horizontally to the portion to which the legs are jointed, when the usual levelling screws *i* serve the purpose of binding the two portions of the head D and A together after adjustment, as set forth and for the purpose specified.

No. 19,027.—JOHN J. HAYDEN, of Rising Sun, Indiana.—*Improved Method of Operating Telegram Keys*—Patent dated January 5, 1858.—The nature of this invention consists in placing as many levers side by side as you desire to make letters or figures, each lever having elevated upon its upper edge the number of dots and lines, which, according to the Morse combination, constitute any given letter or figure, and placing the levers when complete underneath a finger-board whose surface is perforated with openings through which the raised dots and lines may protrude, the surface of said finger-board being fluted so that the slots or openings may be in the centre of the groove or flute. In the front part of the lever is placed a wire staple, with the points downward, and the lever is secured by means of a screw at the point marked with the letter *b*, and caused to spring back to its place upon being pressed down, by passing the finger along the flutes over the dots and lines by means of a spring at the opposite end of the lever from where the staple is placed, at the point marked by the letter *c*.

Claim.—The particular formation of the levers into dots, lines, and spaces of any desired length, thereby securing perfect mathematical accuracy in the formation of the ciphers which compose the "Morse Telegraph Alphabet."

No. 19,278.—LOUIS BRAUER, of Washington, D. C., assignor to Himself, L. G. BRANDBURY, and JOSEPH B. STEWART, of said Washington.—*Improved Apparatus for Paying out Telegraphic Cables*.—Patent dated February 2, 1858.—This invention is designed to overcome the difficulty which has heretofore attended the laying of telegraph cable across the ocean. It provides a spring pulley frame for supporting and weighing the draught on the cable, and receiving all sudden shocks by being combined with the valves of the propelling engine and with the valves of the engine of the paying out apparatus, increases or cuts off the supply of steam as necessity requires, and thus controls the paying out of the cable or the speed of the steamer.

Claim.—I claim the arrangement of the spring pulley-frame with the paying out apparatus and the valves of both the paying out engine and propelling engine or either of the same separately, substantially as and for the purposes set forth.

No. 21,371 —GEORGE SCOTT, of Wiscasset, Me.—*Apparatus for Paying out Telegraph Cable*.—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* in combination with a delivering roller, or a system of delivering rollers A B, a tilting lever G, or its equivalent, and a brake mechanism, or any equivalent therefor, for arresting

or controlling the revolution of the delivering roller or rollers, the whole being made to operate in such manner as to increase the paying out or delivery of the cable under increase of tension of it, as described.

I also claim, when the lever is applied to a brake apparatus and a guide roller K, essentially as described, combining the guide roller with it by means of a spring, or making the outer arm of the lever as a spring for the purpose of enabling such spring to operate the lever, in manner and under circumstances as set forth.

I also claim combining the inertia weight with the spring lever so as to cause such to operate as specified, under a sudden upheaval of the stern of the vessel.

No. 21,634.—OWEN G. WARREN, of New York, N. Y.—*Improvement in Method of Laying Submarine Telegraph Cables*.—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the use of a reel A immersed in the water to deliver a telegraph cable at the bottom of the sea, constructed and operated substantially as described.

I also claim the combination of the reel-boat B with the reel for the convenience of using the brake or operating engine in the manner described.

No. 21,629.—SAMUEL SAMUELS, of Brooklyn, N. Y.—*Improvement in Method of Laying Submarine Telegraph Cables*.—Patent dated September 28, 1858.—This invention consists in passing a submarine telegraph cable from the ship, or other vessel from which it is paid out, through an opening in the bottom thereof, as near as convenient or practicable midway between the stem and stern, at or near the point where the least motion is produced by the pitching of the vessel.

The inventor says: I *claim* passing the cable from the ship or vessel through the bottom thereof, at or near the point specified, substantially as and for the purpose set forth.

And I also claim the employment, to conduct the cable to the bottom of the vessel and to exclude the water from the opening in the bottom where the cable leaves it, of a tube, the whole or the lower part of which has a downward inclination toward the stern of the vessel, substantially as and for the purpose specified.

No. 21,492.—MOSES G. FARMER, of Salem, Mass., and JOHN M. BATCHELDER, of Cambridge, Mass.—*Improvement in Telegraph Insulators*.—Patent dated September 14, 1858.—In making this improved telegraph wire insulator a cast iron hook H, about four inches in length and three-fourths of an inch in diameter, forms the support for the telegraph wire, the horns of the hook at the lower end being double, as at A B, and the upper part cylindrical. About three inches in length of the upper part of the hook is covered with hard India-rubber. This compound is applied to the hook in a plastic state, covering the end of the shank and about two-thirds of its length, as seen at C; the hook with its covering of rubber is embedded in pul-

verized soap-stone and placed in heaters or ovens, where it is exposed to a temperature of about three hundred degrees F. for about ten hours, until it becomes hard. On being taken from the heater the rubber C is found firmly attached to the hook. It is now placed in an engine lathe and a screw cut upon it.

Claim.—The iron wire supporter or hook in combination with a screw insulator made of hard India-rubber and attached to the hook or shank, in the manner described.

No. 20,698.—GIOVANNI CASELLI, of Florence Italy.—*Improved Pantographic Telegraph.*—Patent dated June 29, 1858.—A description of this invention would require too much space to be given here. The claim and engravings will give an idea of the invention.

The inventor says: I do not claim the general use of electricity for producing fac similes upon chemically prepared paper or other material.

But I *claim* the mode of rapidly transmitting the fac similes of writings, drawings, cyphers, and arbitrary signs in colored characters, upon ordinary white or chemically prepared paper, substantially as described.

I also claim the mode of receiving and transmitting different despatches at the same time and with a single wire, as described.

I also claim the use of local piles, with circuit always closed, for the production of the characters in chemically prepared paper, as described.

No. 21,329.—MOSES G. FARMER, of Salem, Mass.—*Improved Method of Sending and Receiving Messages simultaneously over the same Telegraphic Wire.*—Patent dated August 31, 1858.—The object of this invention is to receive messages simultaneously over the same wire and upon one instrument, and this is accomplished by the employment of an accessory battery to each instrument, in combination with the main batteries and main magnets, and with a means of reversing the current of each of the main batteries.

Claim.—The employment of an accessory magnet and an accessory battery to each instrument in combination with the main batteries and main magnets, and with a means of reversing the direction of the current of each of the main batteries, in the manner substantially as set forth.

No. 19,116.—JOHN ABSTERDAM, of Boston, Mass.—*Improved Construction of Telegraphic Cables.*—Patent dated January 19, 1858.—In the engravings A represents a cable formed with corrugations or flexures, as shown at *a b c*. In figure 1 *d* is the circuit wire or strand, while *e e* represents an insulating covering of gutta-percha or other suitable flexible material, such covering being surrounded by, or having wound on it, a metallic covering *f f* formed of twisted strands of steel wire in the usual way. The metallic portion of the cable being practically inelastic with reference to its insulating and protecting covering, the whole is formed either with corrugations or flexules.

The inventor *claims*, as a new or improved manufacture, an electric telegraph cable (or one constructed in part of metallic wire,) as made, so as to be elastic lengthwise, or with such corrugations or bends in the circuit wire or wires, and its or their external covering, or simply in the circuit wire or wires, or in the circuit or other wires, as will insure elasticity of the cable in a longitudinal direction, as specified.

No. 22,082.—RUFUS KENDRICK and ALPHEUS W. ARKERSON, of Cambridgeport, Massachusetts.—*Improved Telegraphic Instrument*.—Patent dated November 16, 1858.—F is the ordinary finger-key of a Morse instrument, which may retain its location on the table where the instrument is placed, and this improvement placed in a suitable position by the side of the finger-key. The circuit closers *c c*, in order to insure certainty of contact, may one or both be elastic, or the lower one may have a little cup or hollow in its top to contain a drop of mercury, into which the point of the upper may dip.

The inventors say: We *claim* the application to the finger-key of a telegraph instrument, of a rocking shaft or its equivalent, to which a succession of vibratory motions of the proper proportionate durations for producing the characters required is communicated, as specified.

We also claim the construction and arrangement of the rocking shaft B with its dogs *i i i*, &c., and of the keys D D D, &c., operating in combination, substantially as set forth.

No. 21,132.—GEORGE B. HICKS, of Cleveland, Ohio.—*Improvement in Telegraphic Instruments*.—Patent dated August 10, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the described devices, or their equivalents, by means of which two armature levers, one of which is upon the receiving instrument and the other upon the recording instrument, are moved simultaneously, as seen in figures 4 and 6, in order to render it impossible for any portion of the current from M² or N² to pass through the magnets M M or N N, figures 2 and 5, except when required to change the position of lever G G¹.

I claim the described arrangement for so connecting a circuit through the armature levers of the receiving and recording (local) magnets, figures 4 and 6, that a current may be diverted through the magnets M M or N N, figures 2 and 5, at the pleasure of a distant operator, and thereby changing the position of the lever G G, figures 2 and 5, for the purpose of enabling the operators upon two distant circuits to transmit intelligence from one circuit to the other without the aid of an intermediate operator, by the means and in the manner specified.

I claim the employment of the devices named, or their equivalents, whereby a current from the battery *s* may be diverted from one magnet M M to another N N, as set forth, by means of the arm I (upon the lever G G, figures 2 and 5,) striking upon Z Z¹, as the lever G G¹ is depressed at X or X¹.

No. 20,982.—EDMUND F. BARNES, of Brooklyn, N. Y.—*Improved Self-Adjusting and Embossing Telegraphic Machine*.—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim generally the use of the power of electricity or magnetism for telegraphic messages at a distance, and recording them either in printed letters or characters, nor the general arrangement of the wires, posts, or electric circuit or circuits, as these are old and well known.

But I *claim* the use and application of the combined permanent and electro-magnets in the resident magnet, substantially as set forth and described.

I claim also the arrangement of the springs *k* and *s*, or their equivalent, in connexion with the circuit breaker shaft C and type-wheel shaft T, by which the circuit breaker arm *d* and type-wheel R are caused to return to a given starting point after the completion of each letter, thereby causing the instrument to be kept constantly self-regulated.

I claim also the use and arrangement or combination of the circuit breaker wheel D with its undulated periphery, and the hammer *l* and anvil *i*, placed and arranged substantially as described, so that the revolution of the wheel D shall alternately connect and disconnect such hammer and anvil, and also connected with the main battery and line, for the purpose of closing and breaking the main telegraphic circuit, substantially as set forth and described.

I claim also the arrangement substantially as described of the hollow shaft C and clutch *f*, and arm *d*, and the connexion therewith, substantially as set forth, of the swing frame B, by which the clutch wheel *g* is made to take hold of such clutch *f* on the hollow shaft C, to carry forward such shaft C, and the circuit breaker, and the arm *d*, whenever any key is depressed, substantially as set forth.

I claim also the arrangement and combination of the vibrating lever J and its nipple *n*, with the escapement wheel *o*, constructed as described, to cause the type-wheel shaft to revolve step by step at every vibration of such lever, substantially as and for the purposes set forth.

I claim also the use and arrangement of the spring L with its adjusting slide and adjusting screws, substantially as set forth and described, for the purpose of regulating the action of the vibrating lever J.

I claim also the arrangement and combination of the imprinting cam *p*, the paper propelling eccentric *y*, and the type-wheel releasing plane *b*¹, substantially as set forth, being attached to each other and placed upon a common shaft or otherwise, but so that it is impossible that they should get into different relative positions.

I claim also, in connexion with such imprinting cam and paper propelling eccentric and type-wheel releasing plane, the arrangement and combination of the rod *z*, bar *y*, and imprinting press *x*, and the rod *c*¹ and the rod *o*, which together cause the letter to be imprinted, the paper to be propelled far enough for the next letter, and the detent cog-wheel P to be forced down so that the type-wheel may return to its starting point and again forced up to clutch the type-wheel, and also cause each of these several things to be done at and in its proper time.

I also claim the arrangement of the armature H, constructed of

alternate plates of conducting and non-conducting metals, when combined with an electro-magnet and used in connexion with telegraphic instruments for the purpose of securing a more rapid vibration of such armature.

I also claim the arrangement of the coiled spring, as described, about the type-wheel shaft T, such spring being set up and held at a given tension, and such tension being increased only a certain amount by the friction for the purpose of securing prompt action to such shaft, as described.

I also claim generally the arrangement and combination of the said several parts described, substantially as and for the purposes set forth.

No. 21,024.—THOMAS REEVE, JOSEPH REEVE, and SIDNEY M. TYLER, of Brooklyn, New York.—*Improved Mode of Operating the Mechanism of Printing Telegraphic Machines*.—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: What we *claim* as improvements in the mechanical arrangement of Barnes' telegraphic instrument is, first, arranging the keys in a flat plate or key-board A in a semi-circular form, substantially as described, securing thereby a direct connexion between such keys and the swing frame.

Second. Applying the points or clutches 12 12 at a distance from the shaft e, and in combination therewith, making such a shaft a round instead of square, for the purposes set forth.

Third. The use and application of an independent friction, constructed substantially as described, upon the type-wheel shaft, to secure, in connexion with the coiled spring, more prompt and instantaneous action to such shaft and the type-wheel thereon, whenever the magnet releases the escapement wheel o.

Fourth. Disconnecting the receiving portions of the instruments from the transmitting portions, to assist the operator in transmitting substantially as described.

No. 20,930.—EDMUND F. BARNES, of Brooklyn, New York.—*Improved Combination of Electro and Permanent Magnets to Render Telegraphing Magnets Easy of Adjustment*.—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the combination and use in a telegraphic line, or in connexion with telegraphic instruments, of the permanent magnet with the electro-magnet, arranged and connected substantially as and upon the principles set forth, to prevent the disturbing effect of atmospheric electricity, &c., as described.

I also claim constructing the permanent magnet B when used, substantially as described, as an armature of the electro-magnet A, with soft iron inserted therein, substantially as set forth, to render its action more forcible in connexion with the electro-magnet.

No. 20,348.—SIMEON HOLTON, jr., of Middlebury, Vermont.—*Improved Thermostat*.—Patent dated May 25, 1858.—This invention consists in certain means of adjustment, whereby the pointer a is

made to indicate correctly upon the dial C the variations of the temperature.

The inventor says: I claim no part of the instrument, but the means of adjusting the movement of the pointer relatively to the expansion and contraction of the compound bar.

But I *claim* the slotted plates *l* and *j* carrying the pin K, and the notch in which it works applied to the compound bar and the lever G, substantially as described, to vary the effective length of one arm of said lever, and yet preserve its proper relation to the compound bar, and operating as set forth.

No. 21,020.—CHARLES R. M. POHLÉ, of Richmond, Virginia.—*Improved Combination of the Needle and Sun-Dial to ascertain Time*.—Patent dated July 27, 1858.—In the engravings C represents the magnet resting upon a balancing-pin in the centre hollow space B; A the surface for the dial to rest upon, A¹ the hand placed upon the dial with hinges so as to fold up and carry in pocket; B¹ the open space through which is seen the magnet needle to get the point of the compass.

The inventor says: I do not claim as my invention the magnet needle, nor do I claim as my invention the sun-dial.

What I *claim* is combining the magnetic needle with the sun-dial, so that the point of compass is at all times at hand, and thereby the time of day ascertained from the dial by holding the dial horizontal and due north and south.

No. 20,201.—HENRY C. FAY, of Troy, New York.—*Improvement in Time Keepers*.—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I disclaim the invention of a jointed verge, or one with movable detents, as that has been used by John Harrison and others.—(Vide “Reid on Clock and Watch-Making,” page 205.)

But I *claim* the invention of a verge with movable detents, so constructed that in the vibrations of the pendulum or balance each detent will be carried on, nearly on, or past its dead centre, so as to greatly lessen the recoil of the movement.

No. 20,252.—SAMUEL CARPENTER, of Flushing, N. Y.—*Improved Escapement for Time Keepers*.—Patent dated May 18, 1858.—The claim and engraving will explain the nature of this invention.

The inventor says: I do not claim the detent spring D, as that is used in all chronometers.

But I *claim*, first, so constructing a scape wheel with two rims or rows of vertical teeth, or their equivalent, as to admit the potance or lower bearing of the staff which carries the pallets and balance to be placed between said rims or rows of teeth, for the purpose of giving double action to the pallets, by which means the watch is prevented from setting by a sudden jerk, as a tooth of one or other of the rims will be acting on its corresponding pallet.

Second. I claim the pallets in combination with the wheel and detent spring, as specified.

No. 21,146.—EUGENE PAULUS, of Philadelphia, Pa.—*Improved Escapement for Time Keepers*.—Patent dated August 10, 1858.—The nature of this invention will be understood by an examination of the claim and engravings.

The inventor says: I *claim* the modification of the duplex escape wheel A in suppressing the upright row of cogs, the manner of giving the impulse directly by it with a pin jewel set in the main roller E mounted on the balance axis; the detent with its fork, toothed for gearing with the pinion of the resting cylinder, and its particular arrangement on the escape wheel axis; the arrangement of the resting cylinder with its pinion; the particular disposition of the lifting roller acting in the fork; the new and more solid arrangement to hold the escapement without bridges, but with simple pillars supporting two small plates secured with pins or screws, the whole constructed and operating as described, constitute a new escapement, which I introduce under the name of “Paulus escapement.”

No. 21,738.—JOSIAH BISHOP, of Austin, Texas.—*Improved Escapement for Time Keepers*.—Patent dated October 12, 1858.—The nature of this invention consists in so forming the detents on the lever and arranging them in relation to the notches of the escape wheel and pallets on the balance arbor, as to render the movements of the clock or watch to which they are attached more regular and less liable to get out of order.

Claim.—The combination of the lever E, springs G H, and the detents formed on the former, arranged in the relation to the escapement wheel described, with the pallets L M and said escapement wheel, so as to enable the balance wheel to perform its oscillations without pressure from the motive power of the clock, or to be retarded by any other resistance, except that necessary to be overcome by the vibrations of the detent lever E during the action of the pallet L on the end of the spring K as set forth.

No. 21,425.—JOSEPH JENNET, of Meadville, Pennsylvania.—*Improvement in the Escapement of Time Keepers*.—Patent dated September 7, 1858.—The balance wheel C has cogs on its periphery; this gears into a pinion E on the shaft of the second balance D. The first balance C is moved by the fork P and jewel pin O on the “collet” F in the same manner that the balance wheel of a common detached lever watch is moved, and this balance C causes the balance D to revolve alternately a number of times in one direction and then a number of times in the other at every movement of the fork P, and thereby makes a steady motion and causes the watch to be less liable to injury from jars and jolts.

Claim.—The first balance wheel C, constructed with cogs on its periphery gearing into the pinion E, and the second balance wheel D, moved thereby in the manner described, the whole being arranged in the manner and for the purposes set forth.

No. 22,428.—EDWIN B. THORN, of Boston, Massachusetts.—*Improved Method of Adjusting the Tripper to the Escapement Lever of*

Time Keepers.—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim a compensating scroll or coil D, composed of two metals of variable expansive properties and applied to a hair-spring balance, but I *claim* the movable plate E, or its equivalent, supported so as to be capable of turning on a pivot, or its equivalent, carried by the stand, the same being for the adjustment of the beat or the pin or tripper of the lever as specified.

No. 22,110.—JONATHAN DILLON, of Washington, D. C.—*Improved Method of Regulating the Winding of Time Keepers.*—Patent dated November 23, 1858.—This invention does not consist in the mode of inserting or fastening the piece in the groove or slot, or in the mere shape thereof, as other forms might be substituted, but it consists in the application of the principle of deriving the power from the coils of the spring, causing the spring to act upon or regulate itself and become its own governor, thereby preventing the possibility of straining the hook, or otherwise injuring the teeth of the barrel pinion or other appliance into which they act.

Claim.—The described method of making springs or coils self-regulating by the use of the slot and lever, or by any other similar devices acting substantially in the same manner for the purposes and uses named.

No. 19,744.—DANA BICKFORD, of Westerly, R. I.—*Improved Regulator for Time Keepers.*—Patent dated March 30, 1858.—A is a straight lever, with a segment-shaped piece B, which is grooved to receive the compensating curb C, in which are placed the curb pins *a*, which regulate the effective length of the hair spring. The compensating curb C is made of such length that its entire expansion and contraction will move the pins *a* along the hair spring a little further than is necessary to effect the compensation, and is secured in the groove of the segment B by one of a number of set screws 1 2 3 4 5 6 7 8, which screw through tapped holes arranged side by side as near as possible to each other on the outer side of the groove.

The inventor says: I do not claim the compensating curb.

But I *claim* fitting the compensating curb to a curved groove, or its equivalent, furnished with a number of set screws, which operate as described, to secure the curb in its place and to adjust or vary the effective length thereof, and thus constitute a means of correcting its compensation.

No. 22,305.—GEORGE P. REED, of Roxbury, Mass.—*Improved Escapement for Time Pieces.*—Patent dated December 14, 1858.—The nature of this invention consists in the combination of a double impulse pallet, and a double detent lifting pallet applied respectively to the balance-wheel axis, and the detent lever of the escape wheel, and to operate therewith so as to cause the balance wheel to receive impulse from the escape wheel during each vibration or swing of said balance wheel.

Claim.—The improved escapement as constructed with its two impulse cams, or a double impulse pallet J applied to the balance-

wheel axle, and to operate with the escape-wheel A, substantially as specified, in combination with the double detent, lever-lifting reverse cams or pallet F, applied to the detent lever of the escape-wheel A, and operated by a cam screw P, or its equivalent, supporting the axle of the balance essentially as explained.

No. 21,895.—ROBERT C. MATTHEWSON, of San Francisco, Cal.—*Improved Transit Instrument*.—Patent dated October 26, 1858.—The compass box and tripod are constructed in any of the usual forms of the ordinary transit. The standards S S', the horizontal axis H, and the vertical arc A, with slight changes are also fixed as the common transit. The telescope T is permanently attached to the vertical axis V, which is fixed at right angles to the horizontal axis H, and revolves about it exactly over the centre of the compass-box.

The telescope T revolves around the equatorial circle E with a vernier N, by which the annular motion of the telescope can be read off from the equatorial circle E.

Claim.—The manner in which the instrument is constructed, so as to ascertain the longitude, and run a true parallel of latitude by fore and back lights.

No. 19,966.—ELIHU BLISS, of Newark, N. J., assignor to BALDWIN, & Co., of said Newark.—*Improvement in Watch Cases*.—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, arranging the pendant so as to form one of the centres on which the body of the watch turns, and by which it is permanently attached to the outer case, whereby the pendant itself forms a handle to reverse the body of the watch on the outer case, for the purpose described.

Second. Arranging the case holding the works of the watch within a secondary ring *b* pivoted to the outer case, so that the body of the watch can be turned in a plane parallel to its face, in order to change the position of the figures on the dial plate when the watch is reversed in the outer case.

Third. The arrangement of the push-piece *f*, and pin *h*, as described, so as to act on the spring holding catch of the close bizzle of the outer case when on either side of the pendant.

No. 19,972.—JOHN F. WATSON, of St. John's Square, Clerkenwell, Middlesex county, England, assignor to JAMES ADAMS, of same place, assignor to BIGELOW, BROTHERS & KENNARD, and PALMERS & BATCHELDERS, of Boston, Mass.—*Improvement in Watch Cases*.—Patent dated April 13, 1852.—This improvement consists in attaching the pendant D or handle to the outer case B instead of the body of the watch, which admits of the inner case being swiveled to the outer. And also in arranging the pivots on which the body of the watch turns or springs, by which it is held to the outer case in such position that when the dial is shown through the open frame the figure XII will be opposite the pendant, and when the body of the watch is reversed, the figure XII will be upward at right angles to the pendant.

The inventor says: I *claim*, first, attaching the pendant to the outer instead of the inner case as heretofore done, for the purposes herein set forth.

Second. The arrangement of the pivots on which the watch turns, or the springs for holding the body of the watch to the case, in relation to the figures on the dial plate, and to the pendant on the outer case, as described.

No. 20,554.—JAMES M. DURAND, of Newark, N. J.—*Improvement in Watch Cases*.—Patent dated June 15, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—Connecting the inner case A of a watch to the outer one B by a hinge and pivot *a*, so that said inner case may be raised up and turned over to make a hunting or open-faced watch without opening but one of the bizzles C D, as set forth.

No. 22,254.—AUGUSTE LACHAT, of New York, N. Y.—*Improvement in Watch Cases*.—Patent dated December 7, 1858.—The inventor says: My improvements are a simple and ready method of constructing the case of a watch, in order that it may either have the appearance of an open-faced or of a hunting watch, as desired being of the kind known as magic “cases;” and a second feature lies in a method of so constructing the “push pin” which passes through the pendant, that the front cap of a hunting cover cannot be accidentally opened whenever it may be desired to have that part of the case kept close.

The inventor says:—I *claim* the method of constructing a “magic” watch-case, substantially as described.

I also claim making the head of the push-pin movable, in the manner and for the purpose set forth.

No. 20,942.—EDWIN FIELD, of Providence, R. I.—*Improvement in Making Watch Cases*.—Patent dated July 20, 1858.—The nature of this invention consists in the peculiar formation of the face of the rolls, by means of which the stock is delivered in a finished state, requiring thereafter no turning or reducing in size or form. Also in imparting a circular form to the stock after it has passed through the rolls, and the proper incline or bevel to the bevel stock, by coiling the same upon a screw mandrel, the threads of which are properly formed to receive it.

The inventor says: I do not claim, broadly, any peculiar formation of the faces of rolls, whereby metallic stock generally may be delivered therefrom finished in its required form.

Nor do I claim any peculiarity of form thereof, for working gold or other plated stock exclusively, or for delivering such stock in any required form or shape, in a finished state direct from the rolls.

Nor do I restrict myself to the precise form described, to the exclusion of another or more perfect one for the purpose.

First. I *claim* the use of the rolls S S, in connexion with the rolls F F, constructed and operating as specified.

Second. I claim the peculiar shaped threads E 1 E 2 of the mandrel E, to prevent flattening, and for properly stretching the centre stock

in coiling the same in the first instance E¹, and for shaping and imparting a proper incline to the bevel stock in the second instance E 2.

No. 22,397.—SAMUEL BALDWIN, of Newark, N. J., assignor to BALDWIN & Co., of said Newark.—*Improvement in Watch Faces*.—Patent dated December 21, 1858.—In the engravings a watch case is shown embracing these improvements, and consists of a single case, to the central ring A of which is hinged on one side a closed back B, and to the opposite side an open bizzle c. A slight flange or projection a, is formed around the inner edge of the open bizzle, to which is fitted a metallic cap D, which snaps over, and is held by this flange, covering the dial as in ordinary hunting watches.

Claim.—Arranging the figures of the dial without turning the works of the watch in a plane parallel to its face, substantially as described, so that they may be in the proper positions in relation to the pendant, whether the dial faces the open or closed bizzle of the case.

No. 20,491.—CHARLES S. JACOT, of New York, N. Y.—*Improvement in Stop Watch*.—Patent dated June 8, 1858.—The nature of this invention consists in combining the whip or fly i, with the anchor escapement e, in such a manner that each vibration of said anchor escapement, either one way or the other, shall allow one arm of said whip i to pass, and thus indicate quarter or other integral parts of a second by a hand on the arbor 2 of said fly.

Claim.—The manner described of allowing motion to the independent train by a pin, or its equivalent, on the escapement lever acting on the arms of the “whip” or “fly,” and letting one arm pass at each pulsation of the balance, as specified.

No. 20,403.—MATTHIAS W. BALDWIN, of Philadelphia, Pa.—*Improved Attachment for Watches to ascertain the time without looking at the Watch*.—Patent dated June 1, 1858.—This improvement consists in an attachment applicable directly to the ordinary watch, for the purpose of striking the hours, and half hours, and quarter hours, when required. This improvement can be applied directly to any watch without deranging its existing machinery, and by means of it any person can tell the hour and quarter hour indicated on the face at night or any other time.

Claim.—The snail wheels e and f, or either of them, the lever g h i, the arm k, and the segment ratchet, combined and arranged as described.

No 20,888.—JACOB MUMA, of Hanover, Pa.—*Improvement in the Escapement of Watches*.—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The escapement, consisting of a single escape wheel A and two geared balances B B, with cylinders or cylindrical segments h h* engaging with the said escape wheel on opposite sides of its axis, when said escape wheel A and balances B B, with their segments h h* are arranged in relation to each other, with their axes in the same plane, and the gear of the said single escape wheel A, with the segments h h*, serve the double purpose of escape and of giving impulse to the balances, as specified.

No. 22,174.—DAVID BUCKLIN FITTS, of Holliston, Mass.—*Improved Device to Prevent Injury from Rupture of the Main Spring of Watches.*—Patent dated November 30, 1858.—The object of this invention is to prevent injury to the train, or the usual bad effects which result from the sudden recoil of the main spring in case of its rupture when wound or partially wound up; its nature consists not only in the application of the main or other wheel of the train to the barrel so as to be capable of being revolved independently thereof, but in the application to such wheel and its arbor or that of the barrel, of a mechanism termed a “reverse motion.”

Claim.—The separation of the barrel and the main or other gear wheel of the train, so that the two can revolve independently of each other, as described, and the application thereto, substantially as specified, of mechanism described and termed a reverse motion, the same being for the purpose as explained.

IX.—CIVIL ENGINEERING.

No. 22,472.—SAMUEL EAKINS, of Philadelphia, Pa., assignor to Himself and M. S. WICKERSHAM, of said Philadelphia.—*Improvement in Method of Blasting or Removing Submarine Bodies.*—Patent dated December 28, 1858.—This invention consists in the construction of a piece of ordnance to be employed under water for the removal of rocks and other bodies, by firing balls or other projectiles at them, of a series of adjustable legs so applied as to support it in such varied positions as may be desirable.

Claim.—The combination with a piece of ordnance, to be employed under water for the removal of rocks or other bodies by the operation described of a series of adjustable, legs applied and operating substantially as and for the purpose set forth.

No. 19,170.—ASAHEL G. BATCHELDER, of Lowell, Mass., assignor to HIRAM E. PEARSON and A. M. BUTTERFIELD, of Lowell, Mass.—*Improvement in Window Blind Fixtures.*—Patent dated January 19, 1858.—To the lower and inner corners of the blind is attached the stands G with wood screws; these stands have a mortise formed in them, as seen at L, through which the bar D passes, and on which these stands and blinds slide, their shutting movement being stopped by the control stand J and the guide H and spring I at the top of the blind; the blinds are stopped when entirely open by the spring I and guide H, and by the stands G coming in contact with the stands K on the window stool.

Claim.—The application of a stand clasping the rail, in combination with the spring and guide rod, in the manner and for the purpose set forth.

No. 21,292.—JAMES WYMAN, of Schaghticoke, N. Y.—*Improved Machine for Setting the Staples in Blind Slats*.—Patent dated August 24, 1858.—The nature of this invention consists in the arrangement and combination of the vertically sliding punch, spring supporting and stop bar upon which the staples are hung, and by which their descent, except when forced down by the punch, is prevented, spring feeding slide and grooved sliding bar or anvil, on which the slats, or the rods which support the same, are placed, while staples are being set into the same.

It also consists in combination with the above, in furnishing the grooved sliding bar with ratchet teeth on its under side, and with a dog on its upper side near its front end, and arranging said bar in such relation to an adjustable spring pawl on the standard which supports said bar, and an adjustable gauge-plate, that the proper distance between each staple driven into the rods, which carry and adjust the slats, can be accurately gauged.

The inventor says: I *claim*, first, the arrangement and combination of the vertically sliding punch D, spring supporting and stop bar E, spring feeding slide G, and grooved sliding bar or anvil B, substantially as and for the purposes set forth.

Second. The combination with the above, the ratchet teeth K of the sliding bar or anvil B, dog M, spring pawl L, and adjustable gauge plate N, substantially as and for the purposes set forth.

No. 19,795.—JOHN C. F. SALOMON, of Baltimore, Md.—*Improvement in Railroad Brakes*.—Patent dated March 30, 1858.—This invention consists in introducing small adjustable auxiliary wheels C C between the main wheels B B B¹ B¹ of the truck, so that when the train is passing around curves, those wheels which are in line with the inward or shortest curve of the track, may be suspended above the rails, while the small wheels rest on the rails and perform the office of the large wheels. It also consists in combination with the small wheels of a brake, which acts with a downward pressure upon the upper part of the periphery of the main wheels, so that the brakes may be applied to the main wheels and the speed of the train retarded.

The inventor says: I *claim*, first, The employment of small auxiliary wheels between the main wheels of the locomotive and several cars of the train, said wheels being adjustable up and down, substantially as and for the purposes set forth.

Second, The combination with the said auxiliary suspending and compensating wheels of a brake, which is constructed and arranged substantially as and for the purpose set forth.

No. 20,396.—JOSEPH HARRIS, of Allegheny, Pa.—*Improvement in Railroad Brakes*.—Patent dated May 25, 1858.—This invention consists in the use of a cross-arm on each car in the train, in combination with a chain shaft on one car, connected by chains, ropes, or rods, for the purpose of adjusting the brakes and setting them in operation.

The inventor says: I *claim*, first, The combination of the cross-arms c c on each of several cars, with a chain shaft on one car con-

nected as described by chains, rods, or ropes for the purpose of adjusting and operating the brakes *kk* in the manner substantially as set forth.

Second, The combination of the tumbler *h* with the extension shafts *ff*, the purchase-rods *mm*, and springs *ss*, to act automatically as a railroad brake, substantially in the manner described.

No. 22,280.—WILLIAM EDGE, of Downingtown, Pa.—*Improvement in Railroad Brake*.—Patent dated December 14, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The application to railroad cars of vertical self-acting safety car-brake, consisting of a flanged safety-block *F*, cam-wheel *M*, axle *U*, lever *N*, chains *H* and *I*, connecting rods *K*, bumper *Q*, wheel-block *S*, pedestal *E*, and shafts *P*, the whole combined and operated substantially as described in said specification.

No. 21,120.—C. L. DABOLL, of New London, Con.—*Improvement in Applying Brakes to Hand-Trucks*.—Patent dated August 10, 1858.—This brake is so arranged as to act at all times automatically adverse to the line of motion, and that too, whether the truck be drawn or pushed from behind, enabling the operator to keep the load under easy control in descending an inclined surface; an improvement useful to warehousemen, &c.

Claim.—The application of the described devices to hand-trucks, in the manner and for the purposes set forth.

No. 20,105.—EDWARD H. TRACY, of New York, N. Y.—*Improvement in the Frames or Caissons of Breakwater, &c.*—Patent dated April 27, 1858.—This invention is designed to obviate the difficulty attending the washing away of the foundation of breakwaters. The claim and engravings will explain its nature.

Claim.—Constructing the frames *A* of breakwaters with longitudinal compartments *CD*, two or more, the inner compartment or compartments being provided with a flooring or bottom *E*, and the outer compartment being open at its lower end, substantially as and for the purpose set forth.

No. 20,414.—THOMAS DURDEN, of Montgomery, Alabama.—*Improvement in Bridges*.—Patent dated June 1, 1858.—This bridge is composed of an arch made of iron tubes *A* extending across the roadway, and connected with interposed locks and wooden framing. The tension rods *FF* combine with the sills *D* and posts *E*, to prevent the depression and longitudinal extension of the arch, and the posts *HH* and braces *GG* combine to prevent the rising of the arch, and to distribute the weight from any point along the whole arch.

Claim.—Forming the arch of a series of metallic tubes *A* arranged transversely, and combined with blocks *BB*, binders *C*, bolts *a* or *b*, and cores *f*, substantially as shown and described.

No. 21,203.—STEPHEN H. LONG, of United States Army.—*Improvement in Bridge*.—Patent dated August 17, 1858.—The nature of this invention consists, first, in the combination of the suspension truss

frame with an inverted suspension arch or arches, or with suspension arch stays; and, secondly, the introduction into the truss of the auxiliary stays as a means of strengthening and fortifying the truss frames of the bridge.

The inventor says: I *claim*, first, the combination of the suspension truss frame with the suspension arch or arches, or the arch stay, substantially in the manner and for the purposes set forth.

I also claim, in combination with the truss frame the auxiliary stays, arranged therein as a means of strengthening and fortifying said truss frame, as stated.

No. 21,388.—LUCIUS E. TRUESDELL, of Warren, Massachusetts.—*Improvement in Bridge*.—Patent dated August 31, 1858.—This invention consists in the use and combination of a double series of horizontal ribs and chords with a series of diagonal or vertical braces or their equivalents, by means of which the strain or tension of the various parts under a rolling weight is in a measure neutralized by the tendency of these parts to distribute it more evenly throughout the whole structure, thereby giving greater strength, rigidity, and firmness to the bridge, with less weight of material than is obtained by other modes of constructing them.

The inventor says: I *claim*, first, an iron bridge constructed with a series of horizontal chords C, in combination with vertical standards B, and diagonal braces A, or their equivalents, when the whole is arranged and connected together in the manner substantially as and for the purposes set forth.

Second. I claim constructing the clamp D in the manner and for the purposes substantially set forth.

No. 22,106.—JOHN C. BRIGGS, of Concord, New Hampshire.—*Improvement in Truss Bridges*.—Patent dated November 23, 1858.—This invention consists in the application of springs to the bearings of either the posts, main braces, counter braces, iron rods of all descriptions, or to any compressed joint in trusses constructed of either wood, iron, or wood and iron combined.

Claim.—The application of India rubber or equivalent springs to the compressed joints of truss frames and truss beams, substantially in the manner and for the purposes described.

No. 20,987.—ALBERT D. BRIGGS, of Springfield, Massachusetts.—*Improvement in the Bearing Blocks of Truss Bridges*.—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim separately any of the parts of the truss frame.

But I *claim* the method of increasing the bearing surfaces for the bearing blocks *d d e e*, by the employment of the combination of blocks or keys *c¹ c¹* and blocks *h h*, the former being tightly fitted between the chord sticks and the said bearing blocks, and the latter between the ends of said bearing blocks outside of the chord sticks, substantially as described.

No. 20,082.—DAVID H. MORRISON, of Dayton, Ohio.—*Improvement in Metallic Shoe for Truss Bridges*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not confine myself to three bearing surfaces, as a very slight modification of the shoe admits of two bearing surfaces for the chord and two for the post.

But I *claim* the combination of metallic shoes or angle pieces with the several parts of wooden trusses in such manner that the cuts or gains made in the timbers of the trusses against which the bearing surfaces on the shoe rest are at right angles, or nearly so, to the fibres of the timbers, as at *a b c*, for the purpose of preventing the injurious effects of shrinkage, there being on every shoe at least three such bearing surfaces, one each for the chord, post, and brace.

No. 19,573.—WILLIAM McKIBBIN, of San Francisco, California.—*Improvement in Constructing Framing of Bridges*.—Patent dated March 9, 1858.—This invention consists in a novel method of clamping and securing together the ends of metal bars, and of uniting plates with the said bars, by which great strength is obtained. This invention is applicable in almost all cases where it is required to connect the ends of iron bars, whether or not it is required to combine plates with the bars.

Claim.—The combination of the slotted lugs *a a* on the ends of the bars, the slotted plates *c* and *d*, and the wedges or keys *e e*, substantially as described, for the purpose set forth.

No. 22,204.—JOSEPH W. SPRAGUE, of Rochester N. Y.—*Improvement in Stop Gate for Canals, &c.*—Patent dated November 30, 1858.—When this invention is applied to canals, it would, under ordinary circumstances, lie below the level of the bottom of the canal, but when a break or leak occurs it may be easily and quickly raised so as to form a dam to prevent the flow of water until the necessary repairs can be made. As applied to streams it would form a dam for slack-water navigation. It can be raised and lowered as the occasion may require.

The inventor says: I *claim*, 1st. The use of the revolving frames *A A* and their combination with the cross timbers *B C D E* and with the planks *H I*.

2d. The use of the revolving lever *O* in connexion with the check chain *T*, as described.

No. 19,682.—JOHN B. CORNELL, of New York, N. Y.—*Improvement in Fire Proof Ceiling*.—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—My improved method of constructing fire-proof ceilings beneath wooden beams, viz: by suspending combined metallic lath sections *b b* beneath the aforesaid beams, and then coating said sections on both sides, substantially as set forth.

No. 19,375.—FRANCIS MCGHAN, of Washington, D. C.—*Improvement in Water Closets*.—Patent dated February 16, 1858.—Behind the valve *f* is a chamber *D* entirely closed except at the top where the pipe

m enters. This pipe is in communication with the waste chamber C by channel *n*, which gives an outlet from chamber D into the waste chamber. This communication is regulated by a valve *v* at the lower end of rod *r*, so that when the valve rests upon its seat the flow of water from chamber D will be stopped.

Claim.—The chamber D behind valve *f*, in adjustable communication with the water-head, and having a waste discharge by the operation of the lever tilting the pan, substantially as and for the purpose set forth.

No. 20,142.—WILLIAM S. CARR, of New York, N. Y.—*Improvement in the Water Closet.*—Patent dated May 4, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The concave ring or cup *m* screwed on to the hollow column *l*, in the manner and for the purpose specified, when this is used for passing the rod to the lever of pan water closets, substantially as specified.

No. 21,294.—ISAAC EDELMAN, of Philadelphia, Penn., assignor to G. W. EDELMAN, of said Philadelphia.—*Improved Water Closet.*—Patent dated August 24, 1858.—This invention consists in surrounding the pipe which contains the basin with a casing attached to and communicating with a ventilating pipe or flue and this flue with the exterior atmosphere, the whole being arranged for the purpose of effectually ventilating both the soil-pipe and the well for receiving the soil, thereby obviating the offensive smells and noxious exhalations common to water closets, and this without employing the usual valve beneath the basin.

Claim.—The casing G, pipe F, soil-pipe H, and exterior pipe I, when constructed and arranged with respect to each other, and when communicating with a ventilating pipe or flue, substantially as and for the purpose set forth.

No. 21,407.—GEORGE BLANCHARD, of New York, N. Y.—*Improved Water Closet.*—Patent dated August 7, 1858.—The nature of this invention consists in a metallic or wooden frame C C attached to the stanchion K by means of a bolt or pin L, so that the frame may easily swing or rock to and fro, and having a rod or bolt B running horizontally through the bottom of the frame, so that the two feet pedals A A may gravitate upon the bolts, to keep the frame and seat J properly adjusted.

Claim.—The arrangement of the swinging frame C C, the pedals A A, the bolt B B, the seat J, the two bars E and F, the platform D, substantially as described, and for the purpose specified.

No. 21,734.—FREDERICK H. BARTHOLOMEW, of New York, N. Y.—*Improved Water Closet.*—Patent dated October 12, 1858.—The nature of this invention consists in providing for water closets a cistern, or drip or leak chamber, arranged on the top of or over the trunk of a closet, and placing a supply-cock within or above said drip-box or cistern, so that any waste or leak or drip from the cock shall be con-

ducted into the trunk, so as to insure the keeping of the floor dry. Also, in providing a lever and cam for the purpose of operating a cock so arranged, and an adjustable standard.

The inventor says: First. I *claim* the use of a drip-box or leak-chamber, arranged above the closet and below and around the supply-cock substantially as described.

Second. I claim arranging the supply-cock upon the cover of the closet, whether the drip-box be employed or not, substantially as described.

Third. I claim the adjusting-screw D, the cam M, and the lever H, or the equivalent thereof, arranged for the purposes substantially as described.

Fourth. I also claim the laterally adjustable standard, substantially as described and for the purpose set forth.

No. 19,030.—JAMES INGRAM, of New York, N. Y.—*Grab for Clearing Conduits*.—Patent dated January 5, 1858.—The nature of this invention consists in the use of a grab so constructed that the fingers *d* of the same cannot be forced beyond the obstruction out of the pipe *a*, and in combination with the same. A clamp or follower *e* is used, acting against any article in the pipe so as to work the same backwards and forwards, if necessary, until it becomes loose enough to be drawn out of the pipe or drain.

Claim.—The fingers *d*, or their equivalents, set and moving on the pipe or slide *a*, and actuated by the rod *b* substantially as and for the purposes specified, and in combination with said fingers *a* so set and actuating, I claim the clamp-plate *e* on the rod *c*, for the purposes specified.

No. 19,646.—JOHN G. MILLER, of Swanton, Maryland.—*Improved Door Register*.—Patent dated March 16, 1858.—In the operation of this machine the canvass D¹ D¹ are secured to their respective spools. The face-plate J and slate K are secured in position, the keys E and F are made to operate the shaft B B and B¹ B¹ in either direction, thus bringing the inscriptions so that they will appear through the apertures in the face-plate J, as seen in the engraving.

The inventor says: I do not claim the employment of the spools, or the rollers, or the canvass for this purpose, as these have been used before; but I *claim* the peculiar arrangement of the spools A A¹ and shafts B B¹, with the rollers C C, and canvass D D¹, substantially as set forth, and these in combination with the face of stationary inscriptions and the slate, as fully described.

No. 21,754.—JOHN C. HARKNESS, of Washington, D. C.—*Improvement in Self-closing Door*.—Patent dated October 12, 1858.—The nature of this invention consists in so arranging the doors known as “bulk-head doors,” or those which are used as the inner doors of vestibules, &c., in such a manner that they may be easily opened by pushing or pulling on either side, shall be self-shutting, and when shut shall be self-secured against any ordinary draught of wind.

Claim.—The ball E projecting through the socket in the bridle F, and

falling into a socket in the plate G in the sill, in combination with the weight, cord, and pulleys, the whole arranged and operating substantially in the manner and for the purpose described and set forth.

No. 19,673.—GEORGE C. BIGELOW, of Worcester, Mass.—*Improvement in Self-adjusting Door Sill*.—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that strips have been arranged in and on doors to close the space between the door and sills, and that strips have been used in windows that were forced out by springs behind them. These I do not claim.

But I *claim* constructing a movable door sill that shall be level or even with the floor when the door is opened, and when it is closed shall be raised to form a close fit to the bottom of the door, by means of the spring levers D, substantially as set forth and described.

No. 19,217.—JOSEPH TINNEY, of Westfield, New York.—*Improved Weather-strip for Doors*.—Patent dated January 26, 1858.—The nature of this invention is explained by the claim and engravings.

The inventor says: I am aware that weather-strips have been constructed with diagonal slots, taking pins in the door in such a manner that an endwise motion given by shutting the door causes the strip to press against the sill or casing, but such I do not claim.

Nor do I claim the employment of springs differently arranged and otherwise combined for giving a yielding or elastic pressure to weather-strips.

But I *claim* the employment of curved slots in weather-strips with upwardly curved or convex springs or bearings on the lower side thereof, substantially in the manner and for the purposes specified.

No. 20,590.—MICHAEL M. SHELLABERGER, of Joliet, Ill.—*Improvement in Weather-strip for Doors*.—Patent dated June 15, 1858.—A metal plate C bent upwards at its ends, F F, and pivoted to the casing or frame of the door forms the weather-strip; the horizontal portion of the plate extends the whole length of the door sill, and a slide is connected with one of the end pieces of the strip and so arranged that, as the door is closed, the plate will be inclined or tilted, so that its upper edge will pass underneath a plate I, attached permanently to the door, the whole being arranged so as to obtain a perfect weather-proof strip.

The inventor says: I do not claim, broadly, a hinged door or weather-strip so arranged as to be actuated by the opening and closing of the door, for many such devices have been used.

But I *claim* the plate or strip C, provided with end pieces E F, pivoted to the casing A, as shown, namely, by pivots or screws *b* passing through oblong slots *a* in the end pieces, and having one of the plates connected to a slide G, as shown, and provided with a catch *f*, which, when the door is closed, passes within a recess H in the door, and over a plate I, the above parts being used in connexion with the plate J, or its equivalent, and the whole being arranged to operate as and for the purpose set forth.

No. 22,052.—GEORGE WOOD and JOHN KING, of Philadelphia, Pa., assignors to Themselves and WILLIAM LAWRENCE, of said Philadelphia.

—*Improvement in Dredging Crane*.—Patent dated November 9, 1858.

—This invention consists in a certain combination of a post, with a pulley on top, a jib with two pulleys and a barrel and clutch; the whole being arranged for joint action on the deck of a vessel, and forming a crane for facilitating the operation of dredging, and dispensing with the usual manual exertion required in the ordinary mode of performing that operation.

The inventors say: Without claiming broadly, the elevating jib E, as hinged to the post of the crane, such a device having been heretofore used in connexion with hoisting apparatus, we *claim*, first, the post D with its pulley G and H, and the barrel with its clutch M, when arranged for joint action on the deck of the vessel, substantially as and for the purpose set forth.

Second. The carrier F, with its pulley G, and its hollow stem, as arranged to turn in the socket in the end of the jib, in the manner and for the purpose specified.

No. 19,908.—E. B. BISHOP, of Shreveport, Ala.—*Improvement in Dredging Machines*.—Patent dated April 13, 1858.—This invention consists in having two screw excavators placed at the bow or front end of a boat; the screws being placed angularly with each other and so arranged that as they are rotated and the boat propelled along, the bed or bottom of the river or harbor will be scooped out and thrown at either side, thereby deepening the channel. The screws are so arranged that they may be raised or lowered as desired.

The inventor says: I am aware that screw shafts have been proposed for use as snow clearers on railroads, and therefore I do not claim them broadly.

But I *claim* the combination with the bow of the boat A, of two spirally flanced shafts F F, in the manner substantially as described, for the purpose of dredging or deepening the channels of rivers, &c.

No. 21, 613.—ABEL MINARD, of New York, N. Y.—*Improvement in Dredging Machine*.—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the spring catch E, lever F, and curve G, with the lid or shutter of the bucket C, for the purpose of tripping the lid to empty the bucket of its contents, as described.

Second. The attachment of the dredge wheel B, the engine I, and chute J, to the hinged frame or platform H, as described; which attachment allows the chute J to retain its relative position to the dredge wheel at all points of the latter's elevation, and the engine I, to be connected to the wheel to work it at all points of its elevation, without the intervention of other connexions or gearing than that shown.

No. 22, 458.—JAMES STEWART, of New London, Conn.—*Improved Dredging Machine*.—Patent dated December 28, 1858.—The nature of this invention consists in so constructing and arranging the dredge

ing machinery as to clear a channel the whole width of the boat and wheels which propel the boat that carries and works the dredging machinery. Also, in feeding the dredging buckets up to their work by the side paddle wheels which propel the boat. Lastly, in arranging the windlass barrels which raise the dredging apparatus out of the water, on the same shaft that operates the dredging chains, so that they may be locked to the shaft to raise the dredging apparatus without stopping the engine or machinery.

The inventor says: I *claim* the arrangement of the three series of dredging buckets in the same dredging machine, substantially as described and shown, for the purpose of excavating a channel in the earth, throughout the entire width of the boat.

I also claim raising the windlass barrels which raise the dredging apparatus out of the water, on the same shaft that operates the dredging chains, so that they may be locked to the shaft to raise the dredging apparatus without stopping the chains of dredging buckets, substantially as described.

No. 21,140.—WILLIAM LEWIS, of Harrisburg, Pa.—*Improvement in Rock Drills*.—Patent dated August 10, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the peculiarly constructed lifting jaw *c*, with the peculiarly constructed vibrating flexible frame *D a*, and inclined planes *E E*¹, whether operated by a lever or other mechanical device, substantially as set forth.

Second. The peculiarly constructed vibrating flexible frame *D a*, for holding the lifters together, and shifting them out of the way alternately, substantially as set forth.

Third. The united use of the lever *E* and strap *b*, for operating on the lifting jaw *c*, incline plane *E*², for turning the bar *B*, and flexible vibrating frame *D a*, for throwing the jaw out of gear with the drill bar *B*, substantially as and for the purposes specified.

No. 21,205.—W. H. LOOMIS & JOHN HEWITT, of St. Louis, Mo.—*Improvement in Rock Drills*.—Patent dated August 17, 1858.—The nature of this invention consists, first, in providing the drill with grooved guide-rods which shall follow the drill-bar down as fast as the drill advances in the rock, so as to keep the guides of the said bar always the same distance from its top and bottom end.

Second. In introducing a friction box between the cams and drill-bar, whereby the said bar will be lifted by the action of the said cams without injury from them.

Claim.—The combination of the two grooved guide rods *A A* with the drill-bar and the two palls *J J*, and nuts *I I*, whereby the two guide-rods are allowed to fall with the drill-bar, so as to keep the top and bottom guides always the same distance from the end of the drill-bar, all substantially as set forth.

No. 22,046.—LYMAN WHITE & T. BUMGARNER, of Davenport, Iowa.—*Improvement in Rock Drills*.—Patent dated November 9, 1858.—This invention consists in operating the drill and giving it its driving

power by means of a cam, and giving the feed motion to the drill by means of a ratchet and screw peculiarly arranged and operated, the working parts being connected with a swinging or adjustable frame, and the whole arranged so that the drill is operated by a positive movement, the feed motion rendered capable of being graduated as desired, and the drill allowed to be placed at different degrees of inclination, according to the work to be performed.

The inventors say : We *claim*, first, the combination of the cam D, swinging adjustable frame B, slide-bar E, and screw rod G, containing the drill-rod K, arranged substantially as and for the purpose set forth.

Second. The combination of the adjustable plate J attached to the frame B, arm I, nut H, with collar K, and pawl *j* attached, the whole being arranged substantially as described.

Third. We claim the spring *u* interposed between the lower collar *t* on the drill-rod and the lower end of the screw-rod G, for the purpose specified.

Fourth. We claim placing the screw-rod G on the drill-rod K between two adjustable collars *t t*, substantially as shown and described, so that when the screw-rod has been fed or moved down the distance of its length, it may by loosening or detaching the collars be raised on the drill-rod and secured upon it higher up in order to continue the work.

No. 20,563.—OLIVER HYDE, of Benicia, Cal.—*Improvement in Post and Pile Driver*.—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says : I *claim* the suspending of the gin from the top by any of the mechanical appliances known to accomplish that end, thereby enabling a post-driving machine to accommodate itself to any unevenness of the ground over which it may be moving.

I also claim the sextant-formed frame B to keep the gin in position.

No. 22,317.—WASHINGTON VAN DUSEN, of Philadelphia, Pa.—*Improvement in adjustable Cradle for Dry Docks and Marine Railways*.—Patent dated December 14, 1858.—This invention relates to the cradles of marine railways, and consists in so constructing the cradle-bars and arranging the same in relation to each other and attaching them by bars and chains to sliding blocks attached to the lower ends of vertical screw-shafts arranged together on one side of the cradle, by which said sliding blocks and cradle-bars can be raised and lowered so as to properly adjust the latter to the bottom of the vessel they are intended to sustain, by the turning of said screws on one side of the vessel.

Claim.—The combination and arrangement of the cradle-bars I R, jointed, connecting and sliding bars M N R¹, chains H H¹, and sliding lifting screw blocks F, respectively connected together, and to the cradle frames B, or ribs E, in such manner and in such relation to each other as to enable the cradle-bars I R to be adjusted to the bilge of the vessel desired to be hauled up and to sustain the same by operating the lifting screws F on one side of the cradle frames B, substantially as described.

No. 20,912.—JOHN WÜST, of Philadelphia, Pa.—*Improvement in Self-dumping Coal Bucket*.—Patent dated July 13, 1858.—The object of this improvement is the construction of a self-dumping coal bucket, to be used in removing coal from one place to another, and in discharging it at the place of discharge without requiring the aid of an assistant at the place of discharge.

Claim.—The employment of the handle B B¹ B² attached by pivots below the centre of gravity of the bucket, in combination with the sliding-rods G H, and the spring-bolt L, or their equivalents, arranged and operating substantially as described.

No. 20,155.—WILLIAM H. HENDERSON, of Franklin, Ind.—*Improvement in the Braces of Eave Troughs*.—Patent dated May 4, 1858.—B is the trough, D is the cornice, E the roof, A the brace, *a a* the pins which pass through the brace and secure it in position; C is a strap of tin or other metal, secured at one end to the brace A, and at the other to the roof. The brace A is made in the form in figure 3, that portion of the brace marked *x* being hollow to allow of the pin *a* passing through it, for the purpose of securing the trough and brace in position.

Claim.—The arrangement of the brace A as constructed in the trough, and with the pins *a a*, for the purpose set forth, and also this arrangement in combination with the strap C, for the better security of the trough as is fully described.

No. 20,511.—NATHAN SAUNDERS and F. T. SHERMAN, of Chicago, Ill.—*Improvement in Excavating Machine*.—Patent dated June 8, 1858.—The dipper shaft C consists of two parallel beams and racks *g g* attached to each beam, each having sufficient space between them to admit the slide rest and the rope *f*. These racks gear with the pinions *s s* fixed to shaft *q*, driven by pulley R and rope *e*, by means of pulley P and crank *i*. Between the pinions *s s* is the rotating slide rest A, turning on shaft *q*. This rest is bifurcated at the upper part, and each branch *x²* is fitted at the top so as to slide freely on the ways or guides *b b*, as seen in figure 2.

Claim.—The extension fulcrum piece in combination with the dipper shaft, in the manner set forth, so that when the dipper shaft arrives at the point necessary for shifting the fulcrum, the fulcrum piece may be thrown into gear, and be carried to the extremity of the crane, for the purposes set forth.

No. 21,206.—WILLIAM R. MAFFET, of Wilkesbarre, Pa.—*Improvement in Excavating Machines*.—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the arrangement of excavating implements on either end of the beam, in such manner that the weight of one scoop or implement is made to counterbalance and assist the other, the said beam being capable of moving longitudinally forward or backward, and of swinging to the right or left, or up or down, each motion being had separately or in combination, whereby the

loading of one digging implement, and the dumping of the other form part of the same operation, as described.

Second. Constructing and arranging the toothed picker and scoop, in such a manner that they may be turned with respect to the beam, substantially as set forth.

Third. In combination with the arrangement for turning the scoop and picker on the beam, I claim attaching them, so that they may separately be turned on their own axis, whereby the toothed picker may be made to perform the duty of both a digger and a rake, and the scoop that of a shovel and hoe or scraper, substantially as specified.

No. 19,565.—WILLIAM K. JOHNSTON, of Rock Island, Illinois.—*Machine for excavating Post Holes*—Patent dated March 9, 1858.—The operation of this machine is as follows: The driving wheel *a a a* is turned in a direction “with the sun,” the cogged bar *h h* is moved in its slot away from its auger shaft *e*, which connects the portion of a screw nut with the screw on the shaft, and disconnecting the cogged bar from the wheel *g*. The cogs on the wheels *a a a* turn the wheel or pinion *b b*, and with it the shaft of the auger. The screw on the upper portion of the shaft, working in the half-nut, causes the shaft to descend, thus forcing the auger into the ground at the same time that it is turning round. As the auger shaft descends it carries down with it the gate *G G* and its attached cog-wheel *g*.

The inventor says: I do not confine myself to a driving wheel of the form described, but contemplate using a wheel for that purpose, having a central shaft, and cogs on the outside, I have also contemplated the using of two augers at once, one at each end of the general framework, and both moved by the same driving wheel.

But I *claim* the arrangement of the pinion *b*, the shaft *e*, the gate *G*, the wheel *g*, the cogged-bar *h*, carrying the half-nut *f*, the whole arranged and operating as described, for the purpose described.

No. 19,104.—J. D. SMITH, of Panton, Vermont.—*Improvement in Excavators*.—Patent dated January 12, 1858.—The operation of this invention is as follows: As the machine is drawn along the plough *J* is guided by an attendant, and the mould-board *K* throws the earth on the depressed and adjoining end of the platform. The platform is rotated in the direction indicated by the arrows seen in fig. 2. By the friction of the wheel *C* at one end, and its contact with the ground at the opposite end, the earth, as it is thrown on the platform is conveyed around by it and discharged therefrom by the strip *G*, the outer end of which projects beyond the periphery of the platform as seen in the engravings.

The inventor says: I *claim* the employment of a flat circular platform *A*, having one of its sides supported by vertical travelling wheels *C* placed below the platform and running upon the ground.

I also claim the employment of an adjustable discharging strip *G* when arranged and operating as shown.

No. 22,279.—S. S. CURTIS, of Croton Corners, New York.—*Improvement in Excavators*.—Patent dated December 14, 1858.—A is one of the wheels of the truck, or cart, of which B is the axle. A frame C is attached to the axle having the parts D D which support the friction pulleys E. The scoop F is attached to the axle B by the branching strap G which encircles and turns upon it. A chain H is connected with forward part of the scoop on each side, which passes over the pulleys E E and is wound up around the crank shaft I.

Claim.—The combination of the eccentric scoop F, with the adjustable gauge-stops and braces K K, or their equivalent, arranged and operating substantially in the manner and for the purpose set forth.

No. 19,353.—JOHN DROWN, of Huron, New York.—*Improved Field Fence*.—Patent dated February 16, 1858.—The sections of the fence are made by nailing to the rails A A upright pickets *a a*; the pickets *b b* are nailed to the rails opposite to the end pickets *a a* to support the rails on that side. The ends of each rail A A of adjacent sections are halved together at *c c*, the ends of the lower rails rest in chairs B B, which serve as a foundation for the fence. The notch *d* receives the end of the lower rails which rest there, are made wedging downward so as to fit the notch in the chain.

Claim.—The combination of the wedging clamps and chairs, with the perpendicular tension wires or rods, arranged and operating together, substantially in the manner and for the purpose specified.

No. 19,491.—PETER S. CARHARDT, of Collamer, New York.—*Improved Field Fence*.—Patent dated March 2, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the mutually binding connexion of panels of portable fences, consisting of rails having angular grooves so as to lap over and to fit into the batten; said rails being arranged in relation to the batten in the manner and for the purposes specified.

Second. In combination with pairs of panels connected in the manner set forth, I claim the shoes or sockets made of planks of triangular form, fitting into the spaces between the batten of both pannels so as to secure their relative position in a permanent manner, substantially as set forth.

No. 19,566.—JOHN H. JONES and NEWTON W. SMITH, of Lebanon, Ohio.—*Improved Field Fence*.—Patent dated March 9, 1858.—The nature of this improvement consists in constructing a fence in such a manner as to dispense with lapping and double battens at each end of the panels, and arrange a system of bracing with the fence, by which it can be lowered and raised without moving the braces.

Claim.—The means for uniting the panels by projecting one-half of the bars from each end of the panel, and one-half of their length into the adjoining panel, between the battens, and connecting them together with pins P or otherwise, substantially the same, which mode of uniting dispenses with the lapping and double batten as before stated.

No. 19,873.—BENNING ROWELLS, of Ossian, New York.—*Improved Field Fence*.—Patent dated April 6, 1858.—The claim and engraving explains the nature of this invention.

Claim.—The method of connecting the panels and the braces with each other, by interlocking the upper and lower rails with the brace post, in the manner as described, whereby the panels are firmly connected with each other and interlock with the posts, without the aid of independent connecting devices.

No. 19,990.—BENEDICT GABRIEL, of Elmira, New York.—*Improved Field Fence*.—Patent dated April 20, 1858.—The objects of this invention are to produce a fence that may be made wholly of one kind of stuff, such as ordinary inch boards, and one which is readily made, transported and set up.

Claim.—Constructing the post halves A A, with points *ff*, having their inner edges wedging, so as to force said points further apart in the act of driving the post into the ground, arranged in combination with the step B B, substantially in the manner and for the purpose specified.

No. 20,071.—EBENEZER E. LEWIS, of Geneva, New York.—*Improved Field Fence*.—Patent dated April 27, 1858.—This improvement consists in so constructing the ends of the fence panels that they will lock into the posts and permit the posts to slide between them, so that the panels will be independent of the posts, in order that the posts may be driven further into the ground when disturbed by the frost or rot without disturbing the panels, and the panels may be removed without disturbing the posts, and yet have them connected while together in a permanent and durable manner, the post being surrounded and protected by the peculiar construction of the ends of the panels.

Claim.—The combination of the panels and posts of a fence, when arranged independent of each other, substantially in the manner and for the purposes set forth.

No. 20,599.—HENRY S. WENTWORTH, of Norvell, Michigan.—*Improved Field Fence*.—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that the tapered or pyramidal posts are not new. I am also aware that the panels have been secured to these posts by various devices, among which notches in cross-bars are included. I claim none of these devices.

The particular improvement which constitutes my said invention, and which I *claim* as having been originally and first invented by me is, the combination with tapered movable posts of movable panels attached alternately upon opposite sides, as shown and described.

No. 20,560.—THOMAS HOGE, of Waynesburg, Pennsylvania.—*Improved Field Fence*.—Patent dated June 15, 1858.—This invention consists in a new mode of bracing the fence with a single brace *d*, attached to a chair *f* with a movable pin *m*. Also in a round hole or mortise through the sill or chair *f*, and passing the projecting ends of

the bottom boards of the panel through this hole, which allows them to turn in it. It also consists in placing the batten C^1 at one end of the panel slightly inclined, so as to bring the two end battens close together at the top, while at the bottom it is far enough back to allow the bottom board of the next panel to be hinged on.

The inventor says: I do not claim forming a hinge joint as being new, as that has been done before, though different from mine.

Neither do I claim the use of the brace, or any other part, in any form in which it has been known or used.

But I *claim* the round hole or mortise through the sill or chair f , with the projecting ends of the boards b^1 b^1 passing through said hole or mortise, and the adjustable brace d , with a hole or series of holes in its upper end, and the battens c^1 , arranged as described, for the purposes set forth.

No. 21,074.—CORNELIUS HORTON, of Phelps, New York.—*Improved Field Fence*.—Patent dated August 3, 1858.—The nature of this invention consists in certain methods of constructing a straight portable fence in panels made of boards A and slats B, supported by braces C, and fastened by a staple and key near the top of the braces, the connexions passing through the slats or ends of the panels at the joint.

Claim.—The combination of the staple with the two panels, the braces, and the key or pin, all being arranged and operated substantially in the manner and for the purpose set forth.

No. 21,073.—DAVID M. HEIKES, of Franklin township, York county, Pa.—*Improved Field Fence*.—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction of the fence into separate panels P by framing the posts g , uprights, and rails together by means of bevelled tenons and mortises, and the application of the circular braces i , by the application of which the fence can readily be raised or lowered at one end from a horizontal to any angular position, and the posts and uprights will in every case stand perpendicular to the ground.

No. 21,843.—JOHN B. MITCHELL, of Wayne, N. Y.—*Improved Field Fence*.—Patent dated October 19, 1858.—This fence is constructed in sections, consisting of panels composed of a suitable number of strips. These are secured together by nailing two narrow strips or battens upon opposite sides at each end, and two in the middle, using hard wood for the purpose and wrought nails. Upon one end of each panel is placed two short battens a , distant one or two feet from the ends, and at the opposite end an extra batten b , upon one side of the panel only.

Claim.—The combination of the slotted post D with the panels, when constructed with the slides c and auxilliary battens a and b , so as to form a fence readily convertible from a straight to an angular one substantially in the manner and for the purposes set forth.

No. 22,202.—CORNELIUS QUACKENBUSH, of Huron, N. Y.—*Improved Brace Post for Field Fences*.—Patent dated November 30, 1858.—The sections or panels A A of the fence are made in the usual manner, except that the ends of the lower rails project somewhat beyond the others, as seen at *a a*, for the purpose of keeping the lower sides of the sections united and in place.

Claim.—The arrangement of the supporting braces B B and connecting brace C, pivoted together and combined with the fence sections in such a manner that the weight of the fence continually acts in firmly supporting and clamping together the sections substantially as specified.

No. 20,005.—L. S. ROBISON, of Gypsum, N. Y.—*Improved Portable Field Fence*.—Patent dated April 20, 1858—Across the end of each panel is fastened a cross bar B, and beyond this cross bar each horizontal bar projects. These bars, however, which project at one end of the panel, do not project beyond the cross bar B at the opposite end, but each horizontal bar, alternating with those in the first set, does project and ends as does the first in a projection *e e*, which may be formed simply of a block of wood nailed on.

Claim.—Any method of constructing a fence which will be portable and easily put up by means of the panels constructed substantially as described, with the cross bar B and the blocks *e e* on the end of the projecting horizontal bars.

No. 19,724.—HEBER G. SEEKINS, of Elyria, Ohio.—*Improved Post for Field Fences*.—Patent dated March 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The foot piece A, having recess *a* and lugs *c c* in combination with the posts, said posts having apertures *d d*¹ and recesses *f f*¹, said apertures and recesses so partitioned as to correspond with aperture *a* and lugs *c c*¹ of foot piece A, in the manner and for the purpose substantially as set forth and described.

No. 20,400.—ALBERT BETTELEY, of Boston, Mass.—*Improved Lattice Iron Fence*.—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this improvement.

Claim.—Uniting the bars of a lattice at their crossings, by suitable pieces having holes or tubes through them, at any desired angle with each other, but in different and parallel planes which embrace the bars, substantially in the manner set forth.

No. 21,064.—WILLIAM BUSH, of Harrisburg, Pa.—*Improved Metallic Fence*.—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction of the base rail B with a continuous dovetail groove, into which are slipped the panels A, with a corresponding tenon, and the top rail with continuous groove, fitting on the top of the panels as described, the whole constructed and operating as described, and for the purposes set forth.

No. 21,315.—ROBERT J. BROWN, of Perry, Pa.—*Improved Portable Fence*.—Patent dated August 31, 1858.—The rails A of the worm fence each has at one end a dovetail tenon *a* and at the other a dovetail gain *b*, cut about half through the rail, corresponding in size and form with the tenon *a* and bevelled at an angle that will give the desired ground plan of the fence, the gain of each alternate rail being inclined in the opposite direction.

Claim.—Constructing a portable fence, without posts, by locking the panels together by means of dovetail tenons and gains in the manner specified. Also, in combination with the above, the use of right and left hand screws, in the manner and for the purpose specified.

No. 21,260.—JOHN B. JOHNSON, of Linden, Ind.—*Improved Portable Field Fence*.—Patent dated August 24, 1858.—The nature of this invention consists in the mode of locking the panels at the top by the brace, so that they are held together longitudinally, and in so locking the panels at the bottom by the stay, that they cannot be pushed together or slipped by one another.

Claim.—The mode of locking the panels at the top as described, so as to prevent their being drawn apart longitudinally or endwise: And also the mode of locking the panels at the bottom as described, so as to prevent them from being pushed, or slipped by one another, when the parts are arranged in relation to each other as set forth.

No. 21,529.—ARCHIBALD B. VANDEMARK and MADISON VANDEMARK, of Phelps, N. Y.—*Improved Portable Field Fence*.—Patent dated September 14, 1858.—This fence is made in separate panels, one of which is shown in figure 1, and when put up and adjusted, it supports itself and stands self-fastened without the use of posts, clamps, keys or other appliances.

Claim.—The placing the locking batten *h* on the same side of the rails with the end batten *g*, and its combination therewith, and with the locking batten *e*, and end batten *f*, and forming a lock, substantially as described, and for the purpose specified.

No. 21,549.—PETER S. CARHART, of Collamer, N. Y.—*Improved Portable Field Fence*.—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, constructing the panels of a portable fence, having their bearings on sills, or their equivalents below, shorter at their tops than their bottoms, substantially in the manner and for the purposes specified.

Second. In combination with panels constructed as described, I claim the sills provided with one or more cross blocks, arranged to project between or on either side of the end battens of the panels, to support and guide them, as set forth.

Third. I claim the employment for tightening up the panels and uniting them firmly and expeditiously with the sill of the key or wedge *f* in combination with the brace or strap *e*, substantially as specified.

No. 19,863.—RENSSELAER MERRILL, of Elmira, N. Y.—*Improved Fence Post*.—Patent dated April 6, 1858.—The shoe H consists of a flat cast iron plate, the corners of which are deflected toward the perpendicular, as seen at *b*. When buried in the earth these points serve to anchor it by preventing any sidewise or slanting movement to which it might be subjected in soft, wet, or yielding soil. The shoe acts in connexion with the portions of the members *a*, that are beneath the surface, mutually resisting any tendency to throw the post out of the perpendicular.

Claim.—The shoe or foot plate H, constructed as described, with deflected plates *l*, and slotted openings *g*, in combination with the skeleton post *a* and flanges *e*, substantially as and for the purpose set forth.

No. 19,434 —RENSSELAER MERRILL, of Elmira, N. Y.—*Improved Device for Connecting the Panels of Field Fences*.—Patent dated February 23, 1858.—Every alternate panel is secured by a foot piece and braces at each end G G, while the intermediate ones are hung as follows: The projecting rails *b b* and *c c* of the permanent panels are halved away at their upper sides, and the projecting rails on the movable panel H, are halved to correspond at *d d*. The cap *e* is laid on so as to project as far as the rails *b b*, and therefore forms a species of hinge joint.

The inventor says: I do not claim simply hinging one panel to another, as that has before been done.

But I *claim* the combination and arrangement of the alternate anchored or fixed panels G, with the movable panels H, when the same are connected by means of the hooked or recessed locking joints and keys, in the manner and for the purpose set forth.

No. 19,159 —WILLIAM D. SHELDON, of Huron, N. Y.—*Improved Method of Connecting the Panels of Field Fences*.—Patent dated January 19, 1858.—The nature of this invention is explained by the claim and engravings.

The inventor says: I wish it to be understood that I distinctly disclaim the use of notched shoulders on the rails in connexion with coupling pins, or their equivalents; nor do I claim the employment of the pickets in other combinations to assist in locking the fence.

But I *claim* the combination of the end pickets of the sections of the fence with coupling pins or spikes, substantially as described, so that the fence may be put together or taken apart by simply hooking on or lifting off the alternate lengths or sections, for the purposes specified.

No. 21,037.—CHARLES VAN DE MARK, of Oak's Corners, New York.—*Improved Triangular Brace for Locking the Panels of Field Fences*.—Patent dated July 27, 1858 —The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the panels, or the mode of locking the same together, as the same are embraced in my aforesaid patent.

Neither do I claim triangular braces to support the panels of a fence, as the same have before been used.

But I am not aware of any previous instance in which a triangular brace has been introduced within an opening in one panel in such a manner that the insertion of the end locking-board *h* of the next panel through the same opening shall hold the aforesaid triangular brace in the proper position, and also connect the panels together.

I *claim*, as an improvement on the patent of June 2, 1857, the brace *i*, constructed as specified, when combined with panels formed as set forth, with the end locking-pieces, and set together in a straight or nearly straight line, as described.

No. 21,459.—OLLY WILLIAMS, of St. Louis, Missouri.—*Improved Method of Allowing for Expansion and Contraction of Wire Fence*.—Patent dated September 7, 1858.—The nature of this invention consists in attaching the wires in such a manner that they can expand and contract with freedom, and so that they shall always have the same tension or tightness; and of so arranging them on friction rollers that an angle can be made in the fence without increasing the friction on the wires, and so that each and every wire shall have the same degree of tension.

Claim.—The combination of the shaft B with the post A, and the application of the wires to the said shaft, whereby all the wires are tightened at one and the same time, by one and the same weight, substantially in the manner set forth.

No. 19,174.—BENJAMIN H. SHEDAKER, of Philadelphia, Pennsylvania, assignor to EDWIN BENDER, of Philadelphia, Pennsylvania.—*Improvement in the Construction of Marquetry Floors*.—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the application of marquetry to floors, nor the securing of one piece of wood in and across the one side of another by means of a dove-tail, half-dowel, or otherwise.

But I *claim* constructing marquetry floors, substantially in the manner and for the purpose set forth and described, namely: I claim constructing marquetry floors by first inlaying or inserting the required differently colored pieces of wood or other material across in the upper sides of the proper flooring boards, (whether these are of like or different colors,) prepared with tongues and grooves in the usual manner required for common flooring, so that the said boards so prepared as set forth may afterwards be laid down and secured directly upon the joists in the usual manner, and so produce a marquetry floor of any surface, pattern, or design, which may be adapted to such mode of construction, without the use of the sub-floor required by other modes.

No. 21,526.—WILLIAM TOBEY, of Naples, New York.—*Improved Gate*.—Patent dated September 14, 1858.—The nature of this invention consists in the manner in which the gates are suspended upon and propelled by the eccentric levers or parallelograms D D.

Claim.—Opening and closing the gate by the use of the parallel pivoted levers D D, when arranged in the manner and for the purposes set forth.

No. 21,645.—SILAS ALLINGTON, of West Dresden, N. Y.—*Improved Gate.*—Patent dated October 5, 1858.—To use or open and close this gate, the lever D is thrown a little above or below a horizontal position when the globular weights d roll out or in, and by thus shifting the weight to the outer or inner end of the lever cause the gate to be shut or opened; and when opened or shut the difference of the power (weight) on the lever will cause it to stay in that position until again operated upon.

Claim.—The lever D with its self-shifting weights, and its connexion to the gate in the manner set forth.

No. 19,499.—ANDREW DIETZ, of Raritan, New Jersey.—*Improved Farm Gate.*—Patent dated March 2, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim the construction of gates so that they can be operated or shut without alighting or dismounting.

But I *claim* the combination or arrangement of the rotating incline h and friction roller g , substantially as described, for the purpose of causing the gate to open or shut of its own weight, according to the position of such incline h , and in connexion therewith the arrangement of the cords $c c^1$, $m m^1$, and their springs or their equivalent, to raise the gate and turn the incline h , the whole substantially as and for the purposes set forth.

No. 21,785.—JOSEPH A. TREAT, of Tallmadge, Ohio.—*Improved Farm Gate.*—Patent dated October 12, 1858.—The nature of this invention consists in the use of levers connected with chains or cords arranged and applied to the gate in a peculiar manner, whereby the gate, by actuating or pulling a single chain or cord at one side, may be first raised and then unlatched and opened. The gate being raised and closed by actuating a chain or cord at the opposite side.

The inventor says: I am aware that various plans have been devised for opening and closing gates from vehicles; levers have been used and applied in various forms.

But I am not aware that a system of levers combined and arranged as shown have been employed for elevating, unlatching, and opening and closing gates by the pulling of a single chain or cord.

I do not claim, therefore, separately or in the abstract, any of the parts shown and described.

But I *claim* the levers G H, in combination with the lever E and link e , said parts being applied to the gate, arranged and connected by the chains I I F F, substantially as shown and described, to operate as and for the purpose set forth.

No. 22,131.—WILLIAM NEWLOVE, of Penn Yan, N. Y.—*Improved Farm Gate.*—Patent dated November 23, 1858.—A is the platform, made of cast iron, the size is made to correspond with the size of the

gate required ; it is in shape a parallelogram ; it is made to receive the posts at the ends. B represents the posts, they are made of iron, and secured to the platform by means of the screws O, and made as shown in the engravings. C is a covering of plank on the top of the platform. D is the gate. E is a chain that supports and closes the gate; it is secured to an adjustable eye-bolt at the top of the post at one end, and the other end to an adjustable eye-bolt at the upper part of the gate, as shown in the engravings.

The inventor says : I *claim* the combination of the post and hinges, constructed and operating as described.

Second. The chain E or its equivalent, with the means for adjusting the same, as and for the purposes specified.

Third. The catches and latch combined with the means for actuating the same, as arranged in the specification.

No. 20,008.—JOSEPH SUMMERS, of Raleigh, Virginia.—*Improved Catch Latch for Farm Gates*.—Patent dated April 20, 1858.—With this arrangement the end of the spring latch is prevented from projecting out beyond the closing face of the front batten of the gate when the gate is opened, and thus the annoyance of having the reins, gearing, and garments catching upon the same, in passing through the gate, is avoided.

Claim.—The peculiar formed spring plate K *g* in combination with the spring bolt D as an attachment for farm gates, arranged and operating in the manner set forth, for the purpose of accomplishing the result specified.

No. 20,247.—WILLIAM F. C. BEATTIE, of Cornwall, New York.—*Improved Method of Opening and Closing Farm Gates*.—Patent dated May 18, 1858.—When the gate is open, by pulling rod *r*, or pushing rod *r*¹, catch *d* will be withdrawn from the detent by which the gate is retained against post P¹, then by pulling rod *r*¹, or pushing rod *r*, the gate will be made to revolve on its attachments to post P. A slight twist of either rods *r* *r*¹ will insert catch *d* into an opening in post P*, and the gate be thus fastened.

Claim.—The combination of the handles *r* *r*¹ with the latch, in the manner and for the purpose set forth.

No. 22,023.—WILLIAM G. HERMANCÉ, of Geneva, New York.—*Improved Method of Opening and Closing Farm Gates*.—Patent dated November 9, 1858.—In constructing this improved gate the inventor says : I construct the frame in the usual manner with posts firmly set in the ground, and surmounted by a transverse beam or plate, connecting them at the top and properly braced. A A are posts, B B the beam, C C braces. I also construct a double gate consisting of two distinct and independent parts shown at D. These gates are suspended on vibrating beams E E by means of slats F F, firmly fastened to them.

Claim.—The suspension of the gates by means of suspension bars of unequal length with pulleys and slat heads, arranged as set forth.

No. 21,851.—EZRA C. ROWLAND, of Phelps, New York.—*Improved Method of Opening and Closing Farm Gates by Approaching Vehicles*.—Patent dated October 19, 1858.—H H represent a rod which connects the levers C C with the levers E E. The rods are attached to the levers C C by a joint; the other end is connected by a slot resting upon the ends of levers E E. Levers E E can be constructed of wood or metal. They act upon the pivot K by means of the rods H H and the levers C C, which act upon the levers D D, which pass through a slot in the top of levers E E.

Claim.—The connexions described of the levers D E, and the endless chain as connected with the gate, for the purpose of forming self-opening and shutting gates.

No. 21,811.—W. T. BOGGS, of Cincinnati, Ohio.—*Improved Mode of Opening and Closing Farm Gates*.—Patent dated October 19, 1858.—This invention consists in having a zigzag grooved cam or cylinder placed near the post to which the gate is hung, said cam being connected with a lever which is pivoted to an arm attached to the gate, the above parts being used in connexion with an automatic gate-catch or fastening and a loaded pawl-arm actuating the cam or cylinder, whereby the gate may be opened and closed at either side, and from a vehicle, or on horseback.

The inventor says: I am aware that levers have been applied to gates, connected with cords, and arranged in various ways, for the purpose of allowing the gate to be opened and closed by persons from a vehicle or on horseback; I therefore do not claim separately the levers described.

But I *claim* the grooved cylinder or cam C, actuated by the loaded pawl-arm E, and used in connexion with the lever F and arm G, as and for the purpose set forth.

I also claim, in combination with the cylinder or cam C, pawl-arm E, lever F, and arm G, the drop-latch I, arranged with the levers *k l*, so that the latch may be operated automatically, as described.

No. 22,261.—CALEB WINEGAR, of Union Springs, New York.—*Improved Mode of Opening and Closing Farm Gates by Approaching Vehicles*.—Patent dated December 7, 1858.—In this invention the chains are put on in a reversed manner, but one capstan-roller is used, and but one weight. The chains are made fast to the capstan-drum; the wheels of the carriage pass over the lever or treadle D, which draws the chain B and elevates the weight K, marked 50 pounds, which opens and closes the gate. When the wheel leaves the lever it acts upon the capstan-roller, the ratchet dog M takes effect, and the crank Q is rotated and the gate opened by means of the pitman X.

The inventor says: I *claim*, first, the combination only of two or more capstan-rollers, substantially as described.

Second. The operating of gates by means of winding up the weight, or equivalent spring, with the wheel of a carriage, or by lever, each time in passing and re-passing the gate, sufficient to open or close the gate or gates, substantially as described.

No. 19,630.—THOMAS G. GAYLORD, of Cincinnati, Ohio.—*Improvement in Wrought-Iron Girders*.—Patent dated March 16, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim as new anything in the external form of the metallic tube or bar here exhibited, knowing that there has existed a structure somewhat similar in its general principles, in which, however, a different combination of the parts is employed.

But I *claim* the duplex girder or beam, composed of an upper piece having the form of an inverted Y, and a lower piece having the form of an inverted T, whose stem or "comb" is adapted to fit closely within the apex of the upper piece, substantially as set forth.

No. 20,011.—T. B. WHITE, of New Brighton, Pennsylvania.—*Improvement in Metallic Shoes for the Braces of Truss-Girders*.—Patent dated April 20, 1858.—The nature of this improvement consists in the combination with the diagonal braces in a truss-girder of a metal shoe, constructed with two open grooves running at right angles to the other, and a male shoe constructed with a narrow central tongue or shoulder on its under side, and two lateral lugs, ears, or stops, one on each edge, and with that portion of its under surface which is not occupied by the tongue bevelled.

The inventor says: I do not claim the double shoes irrespective of the mode of construction and combining the same with truss bracing.

But I *claim* the combination with the diagonal braces C C, in a truss-girder, of the peculiarly constructed metal male and female shoes *b c* and wedges *d d*, substantially as specified, for the purposes of setting up the braces to give camber to or to raise the girder, as set forth.

No. 22,047.—TIMOTHY C. WOOD, of Charleston, Michigan.—*Improvement in Grubbing-Machine*.—Patent dated November 9, 1858.—A A represent the two wheels of the machine; B is the axle; E is an elliptical block, which is secured to the bottom of the axle; and C is a lever, secured also to the axle. These two are attached as firmly and securely to the axle as though they formed a part of it. D is an upright, which is hinged to the axle as shown at *x x*; *d d* are chairs, which are attached to the under side of the lever C by means of a bolt. To these chairs are attached the hooks *c c*; *a* is a cord, which is secured to the outer extremity of the lever C at one end; the other end passes up between two pulleys on the upper extremity of the upright D, and then passes down so that power may be applied to it.

Claim.—The arrangement of the lever C, the hinged supporter D, the cord *a*, the elliptical block E, and hooks *c c*, all being secured in the carriage substantially in the manner and for the purpose specified.

No. 21,431.—GEORGE MARTZ, of Pottsville, Pennsylvania.—*Improvement in Hoisting and Dumping Apparatus*.—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination of the car E, hung and controlled in its up and down movements in the peculiar manner specified, with a sliding gate F and stationary frame A, which are constructed and

arranged in the peculiar manner specified, substantially as and for the purposes set forth.

No. 19,237.—LEON JOSEPH POMME DE MIRIMONDE, of Paris, France.—*Improvement in Reducing the Friction of Journals of Axles on Railways*.—Patent dated February 2, 1858.—The nature of this improvement will be understood by reference to the claim and illustrations.

The inventor says: I *claim*, first, placing the bearings *d*, in which the journals *e* of the friction rolls run, within the axle-box and supporting them in the shell of said box, as set forth.

I also claim, in combination with the axle or journal *f*, the hanging of the friction rolls independent of each other, so that when the weight comes unequally upon them, by the rocking of the rolling stock, one shall not wrench or cramp the other, and cause it to cut, as described.

I also claim the causing of the axle itself to take and carry up the lubricator from the reservoir to the journals of the friction rollers, and supplying itself through said friction rolls, substantially as described.

I also claim, in combination with the journal *f*, the sectional ring *l* and solid one *m*, with its flexible covering, as a carrying device for taking and conveying the oil from the reservoir to the journals of the friction rolls, as set forth.

No. 20,629.—JOHN B. CORNELL, of New York, N. Y.—*Improvement in Metallic Lath*.—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Forming an improved plaster-supporting metallic surface of a closely united series of sheet metal sections, whose edges are first inclined inwardly and then outwardly into substantially the shape shown, and for the purposes set forth.

No. 21,118.—JOHN B. CORNELL, of New York, N. Y.—*Improvement in Metallic Lath Surface*.—Patent dated August 10, 1858.—The improved form given to the metallic sheets *c c* consists of a series of double curves or angles, which enables said sheets to be hung upon a series of hooks *a a* or inclined pins *b b*, projecting from suitable partition studs, and when thus suspended to form a series of pockets or horizontal channels for portions of the coating of plaster to settle into by gravity, and thereby cause said coating to closely and securely adhere to the curved sheets.

The inventor says: I *claim* the described improved shape of the sheet metal sections *c c*, which enables them to securely retain coatings of plaster, when the said sections are secured to vertical supports, and which also enables said sections to be securely combined with partition studs without the aid of nails, screws, or bolts, substantially as set forth.

No. 19,487.—BIRDSALL CORNELL, of New York, N. Y.—*Improvement in continuous Metallic Lathing*.—Patent dated March 2, 1858.—The nature of this improvement will be understood by examining the claim and illustration.

The inventor says: I am aware that narrow angular strips of sheet

metal have been combined with each other in such a manner as to form surfaces for the reception of a coating of plaster, and that patents have been granted to Palmer Sumner and to John B. Cornell for varieties of such combinations.

Therefore, I wish it to be distinctly understood that I *claim* forming metallic surfaces for the reception of castings of plaster, &c., of sheets of metal after they have been swaged into alternating elevations and depressions of a retaining shape, substantially as represented in the drawings.

No. 21,386.—WILLIAM TODD, of Cherryfield, Maine.—*Implement for Rolling and Piling Logs*.—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination and arrangement of the tapered roller E with the diagonally arranged cylindrical rollers A for facilitating and guiding the movements of logs and heavy timbers, and piling the same in racks or on teams and vessels, substantially as described.

No. 21,908.—ELISHA SIMKINS, of Allegheny, Pa.—*Improvement in Machine for Mining Coal*.—Patent dated October 26, 1858.—This invention consists in a mechanical arrangement for operating picks in such a manner as will give them a back, forward, side and angular motion.

The inventor says: I *claim*, first, the arrangement of the double or compound slide *c* and sliding frame *d* when used in connexion with the stationary frame *a* and operated by the screws *t* and *u* and the nut *s* as herein described, and for the purpose set forth.

Second. The arrangement of the cam *r*, slide rack *h*, wheel *o* 1, shaft 2, shifting piece 8, levers *z* and *y*, ratchet wheel *p* 1 and *p*, and the ratchet palls B 1 and B for the purpose of moving the upper end of shaft 3 back and forward, and for operating the screws *t* and *u* as herein described and set forth.

Third. The arrangement of lever 1 *o*, and the connecting rod *j* for the purpose of regulating the angle of the picks *g* as herein described and as set forth.

Fourth. The arrangement of the flexible connecting rod *r*, the crank *n* 1, the shaft 3, the arms *k*, the pick receivers *l* and the picks *g*, as herein described, and for the purpose specified.

No. 19,543.—C. A. CHAMBERLIN, of Alleghany City, Pa.—*Machine for Mining Coal, &c.*—Patent dated March 9, 1858.—This machine consists of a rotary cutter-wheel F of proper construction and furnished with a proper arrangement of cutters to cut in a direction perpendicular to its axis, arranged in a carriage C C D D which is fitted to travel upon a stationary frame A A B B, and a feed-screw for moving the carriage and cutter-wheel in a direction perpendicular to the axis of the cutter-wheel, for the purpose of moving the said wheel forward as it cuts its way into the coal or other substance to be mined. The machine cuts a groove or narrow cavity directly into the walls of a mine, parallel, in such a manner as to permit the masses above or at the side of the said cavities or grooves to be removed by wedging out or blasting.

The inventor says: I *claim* first, the combination of chisel-edged cutters and oblique edged cutters applied to the cutter-wheel to operate substantially as set forth.

Second. The construction and mode of fitting together the cutter-wheel and the head N in which its axle is supported in the manner substantially as described, whereby the cutter-wheel is enabled to cut its way beyond its axis, as explained.

Third. The arrangement of the main frame, the carriage, and the cutter-wheel, to operate substantially as set forth.

No. 19,592.—ABIJAH R. TEWKESBURY, of East Boston, Massachusetts.—*Improvement in Iron Pavements*.—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim an iron hexagonal paving block, formed with legs or lugs extending downward from the several corners of its cap, to be united or fixed to other blocks of like character by means of iron slips or bands, such being described in the specification of No. 15,776 of United States patents.

Nor do I claim a pavement block made of metal, and formed of a series of arches alternating in position and connected to ridge or string pieces, and having interstices between the arches, the same being shown in No. 15,479 of United States patents.

Nor do I claim a pavement block made of a hollow cubical box, having an arched or ribbed cup, and formed with round holes through its vertical sides; as my invention, or improved block, as a whole, differs essentially from such.

In the first place, it has but two prongs extended down from the ends of its cap, and such cap is arched in two directions, viz, lengthwise as well as widthwise. My block is of an oblong shape, and each prong is made wedge-shaped, in order that when the block may be driven downwards the wedge-shaped prong will enter the soil, and consolidate the earth which may enter between the two prongs. Furthermore, the concave cap or cup-shaped arch also condenses and consolidates the earth, so as to steady and support the pavement block in lateral, as well as in longitudinal, directions.

I *claim* the improved cast iron pavement block, as made with an arched cap and two wedge-shaped prongs, arranged substantially as described.

No. 22,444.—RICHARD MONTGOMERY, of New York, N. Y.—*Improvement in Iron Pavements*.—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* a metallic pavement, consisting of a series of parallel arched corrugations reaching or extending from the curbstone on one side of the street to the curbstone on the other side, substantially as shown and described.

I also claim casting or making the upper parts of the corrugations thicker than the lower parts, in the manner and for the purpose set forth.

I also claim supporting or anchoring the pavement, when it is cast in sections, by a grooved central support, as shown and described.

I also claim the dovetailed recesses and projections *k*, in combination with the projections *b c*, for the purpose of holding the pavement in place.

No. 21,834.—PETER H. JACKSON, of New York, N. Y.—*Improvement in Construction of Metallic Side Pavements*.—Patent dated October 19, 1858.—The nature of this invention consists in so forming the edges of the large iron plates that they receive a wrought iron rod and stanchions, which simultaneously make an open truss to support the plate, and also straighten out the plate, removing any twist or buckling.

Claim.—The combination of the tie rods *h h* and brackets *g^l g^l*, formed on the undersides of the plates *a a*, with the stanchions *K K*, acting to connect said plates to each other, straighten said plates, and strain the said tie rods *h h*, substantially as and for the purpose specified.

No. 20,883.—TUNIS W. LOVELESS, of Corning, New York.—*Improvement in Adjustable Pile Driver*.—Patent dated July 13, 1858.—This invention consists in a novel construction of the machine, whereby the monkey guides may be adjusted in a vertical position, in case the ground on which the machine rests is not horizontal, thereby allowing the machine to be expeditiously applied to its work, without the trouble of grading.

Claim.—The frames *D E*, connected by pivots or joints *c*, and retained in desired positions by the perforated segment plate *F* and pin *d*, in combination with the bolster *H* and bars *h h*, attached to the frame *D*, as shown, and secured in desired position by the racks *J J*, serrated plates *O*, and bar or clamp, the whole being arranged substantially as and for the purpose set forth.

No. 21,491.—ADAM DEFENBAUGH, of Walnut Run, Ohio.—*Improvement in Mole Plough*.—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that underground ditching ploughs have been used, but they have not been sufficiently under the control of the attendant to make them of much use; besides, they only make a ditch parallel with the surface of the ground, while mine will form a ditch with a regular grade or descent.

I *claim* so hanging the beam *D*, wheels *C C*, and underground plough *H* to each other as that the conductor of the machine may, at any time, without seeing the plough, raise and lower it so that the ditch shall have a regular descent, regardless of the undulations of the ground underneath which it is formed, and over which the plough passes.

I also claim, in combination with the underground plough, the scoring wheel *m*, for forming a secondary trench in the bottom of the ditch, for the purpose set forth, and the friction rollers for relieving it, as represented.

No. 22,194.—JAMES NEVISON and EDWARD NEVISON, of Morgan, Ohio.—*Improvement in Under Drain Ploughs*.—Patent dated November 30, 1858.—A is the beam to which may be attached the handles B and clevis C in any convenient manner; near the rear end of the beam is secured by any of the ordinary means the upper end of the shank D, and to the lower end is connected the peculiar shaped plough E. The form of this plough can be varied if desirable.

The adjustable pressure roller O, acts when the first drag I enters the opening made by the plough; by this means the earth which is disturbed by the plough is compressed upon the first drag, and the opening or cut caused by the shank D is also closed up at the same time.

Claim.—The adjustable weighted roller O in combination with the plough and drags as set forth, and operating conjointly for the purpose described.

No. 20,352.—T. E. KING, ALEX KING, and EDWIN KING, of Cherry Valley, Ohio.—*Improved Iron Gate and Fence Post*.—Patent dated May 25, 1858.—This invention consists in the construction of a fence post of cast iron, or other suitable material, of such structure in its several parts that the post can be put together and taken apart at pleasure, and by this means to introduce the rails or panels without the use of pins or bolts; hinges for gates may also be secured in the same manner to the posts as are the rails.

The inventors say: We *claim* a fence post composed of the parts G and K, provided with toothed or serrated edges *a a*, arms B, and keys C, and in combination therewith the wings *i i*, and stud *o*, when constructed and arranged substantially in the manner and for the purpose specified.

We also claim the manner of securing the gate hinges D, by means of the lugs *c c*, and notches *a a*, the same to be held in place by the keys C, as described.

No. 21,750.—WILLIAM S. FULLER, of Millbury, Mass.—*Improved Construction of Iron Railings*.—Patent dated October 12, 1858.—The nature of this invention consists in the application and arrangement, together and about the connexion rod, of a segmental connexion piece and two sockets therefor, the sockets being arranged in the two abutting palings.

Claim.—As an improvement or new arrangement of parts, viz, the application and arrangement of ring segments, or segmental connexions and their sockets made substantially as described to fence palings and a connexion rod, the same being to effect advantages in the construction of metallic fences.

No. 22,448.—JAMES NUTTALL, of New Orleans, La.—*Improved Construction of Iron Railing*.—Patent dated December 28, 1858.—The inventor says: I form rails out of wrought iron plates, which are drawn to the shape required. Those shown in figures 1 and 2, are of the same figure, although the pattern of the panels, so far as figure is concerned, is different.

Claim.—The combination of bent sheet metal rails with grooves in

the panels receiving the edges of the rail, and giving an internal and external bearing to the rail, substantially as set forth.

No. 20,797.—LUTHER HOMES, of New Orleans, Louisiana.—*Improved Method of Constructing Iron Railings*.—Patent dated July 6, 1858.—This improvement consists in forming the horizontal rails D of iron railings hollow of two semi-circular bars D D¹, connected together and to the upper and lower parts of the upright bars or newels, in such a manner as to form a strong and durable railing or balustrade in sections, capable of being readily secured together or detached, and confined in a small space for transportation.

Claim.—Securing and embracing the circular projections B B¹ at the upper and lower ends of the upright bars A within the horizontal tubular rails D, formed by the semi-circular and straight bars D D¹, and the portions of said bars next the flat circular parts between the notches in the bridge plates H, and the left hand ends of the notches or depressions E in the edges of the bar D, and the right hand ends of the corresponding notches or depressions E¹ in the edges of the bars D¹, by means of the interlocking pins C C¹ and pins or lugs F F¹, and hubs or blocks I, substantially in the manner and for the purpose described.

No. 20,419.—HEMAN GARDINER, of New York, N. Y.—*Improvement in Compound Railroad Axle*.—Patent dated June 1, 1858.—The nature of this invention consists in arranging the parts constituting the hub in connexion with a sleeve or sheath over the joint so as to hold the parts together with sufficient strength, and so as to permit the wheels to turn independently of each other.

Claim.—The combination and arrangement of the hub, cylindrical parts c c and axle parts, so that all may rotate together, or one wheel and short axle independently, as described.

No. 21,604.—J. P. GARNETT and DANIEL STICKEL, of Mercer county, Pennsylvania.—*Improvement in Compound Railroad Axles*.—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A compound axle, the main portion of which extends through both wheels and equals in length the width of the track, and is reduced in size from its centre to one end, in combination with a tubular axle of half its length in which the reduced part of the main axle revolves as in a journal, one wheel being secured to the main axle and the other to the tubular part, arranged substantially as described.

No. 20,871.—JACOB C. GEISENDORFF, of Cincinnati, Ohio.—*Improvement in Railroad Car-Box Cases and Pedestals*.—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The employment of the lugs C C formed on box case D, when used in connexion with the notches b b (two or more) formed in the pedestal E, substantially as described, for the purpose of readily

detaching or removing the box from the axle, yet retaining the box case in a proper position in the jaws of the pedestal, in the manner set forth.

No. 19,705.—HENRY E. LOANE, of Baltimore, Md.—*Improvement in Railroad Car Couplings*.—Patent dated March 23, 1858.—The coupling-bar B has a rounded or wedge-like head *g* at each end. At the bottom of the mouth C is firmly secured a fixed jaw F, and from the upper side of the mouth is suspended a swinging jaw E, directly over the fixed lower jaw. The journals *ii* of the jaw E are mounted in suitable bearings in the coupling-head A. In front of the jaws E F is a transverse vertical slot *b* in the coupling-head A, for the purpose of receiving a forked holding-plate D.

Claim.—The arrangement and combination of the coupling-bar B, jaws E E, F F, and holding-plate D, in the open-mouthed coupling-heads, substantially in the manner and for the purpose specified.

No. 20,777.—ZENAS COBB, of Chicago, Ill.—*Improvement in Railroad Car Seats and Berths*.—Patent dated July 6, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: First, I *claim* arranging the lower portions A¹ and hinged-backs A² of the seats A on the rail and ledges C E, so as to either enable them to be used as a double sleeping couch or as a seat, in the manner described.

Second. I also claim the arrangement of the cushioned frames or platforms F above the seats A, and jointing them to the uprights of the partitions D and sides of the car, and providing them with lugs H and the sides of the car and the movable bar with swinging hooks or lugs I, for forming the upper double berth when desired, as described.

No. 19,124.—JAMES BISHOP, of Owego, N. Y.—*Improvement in Railroad Chair*.—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A railroad chair or joint-coupling composed of two parts E F, furnished with jaws *c b* and projections *d e* fitting to each other and to the ends of the rails A B, substantially in the manner and for the purpose set forth.

No. 20,472.—THEODORE KRAUSCH, of Susquehannah Depot, Pa.—*Improvement in Railroad Chairs*.—Patent dated June 1, 1858.—C is the chair, R the rail with the joint J on centre of the wedge W, whose surface is described by *s s s s*, which being driven transversely in its seat S, acts on the base line G of the rail pressing it against the lips *l l* of the chair, and thereby holding the rail firmly in its place.

The inventor says: I do not claim for my invention the particular form of chairs described alone.

But I *claim* the adaptation of a chair to, and the use of, transverse wedging as above described, or by gibbs, or if in one, two, or more parts, by bands or by whatever other mode transverse wedging may be accomplished.

No. 20,464.—ELIZUR BARNES, of Dorchester, Mass., assignor to EDWARD CRANE, of said Dorchester.—*Improvement in Railroad Chairs*.—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the use of elastic cushions under the rail, nor the use of movable lips, they have been used before.

I *claim*, first, the use of elastic cushions E over the web of the rail in such manner as to counteract the reaction of any downward force upon the rail, or any lateral thrust or pressure upon it, substantially as described.

Second. The confining of the rail between elastic cushions placed above the web of the rail and under the base of the rail under such a pressure that the rail will not be sensibly depressed by the weight of an engine or train passing over it, and a constant tension will be maintained upon the screws which confine the rail substantially in the manner described.

Third. The mode of bringing the upper surfaces of the rail to an exact level by the compression of the elastic cushion on which the rail rests, and the whole device arranged and operating as described.

No. 20,617.—E. R. BARNES, of Brookfield, Conn.—*Improvement in Railroad Chair*.—Patent dated June 22, 1858.—This invention consists in having one of the jaws B of the chair attached to the base-plate A of the device, and the other attached to a wedge C, which is fitted and works in a taper recess *a* in the base-plate corresponding in form with the wedge. A key G passes transversely through the smaller end of the wedge adjoining the end of the face-plate, and by being driven in or through the wedge draws the wedge within its recess so as to cause the jaws to clasp the ends of the rails firmly.

The inventor says: I do not claim the vertical projection E on the jaw B for the purpose of protecting the ends of the rails from wear, for that, or its equivalent, has been previously used.

Nor do I claim, broadly, the use of wedges for adjusting the movable jaw, irrespective of the arrangement shown.

But I *claim* the two jaws B D attached respectively to the base-plate A and wedge C, and provided with the horizontal projections *c d*, the base-plate having a recess *a* formed on it to receive the wedge, and the wedge secured firmly in position by the key G, substantially as and for the purpose set forth.

No. 21,471.—ADAM HAY, of Newark, N. J., assignor to Himself, SILAS W. MILLER & LEBBEUS B. MILLER, of said Newark.—*Improvement in Railroad Chairs*.—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, 1st. The lip projection C, formed and adapted substantially as represented to support the flange of the rail and in turn to be supported by the upper portion of the wedge.

2d. I claim a chair having an aperture for the wedge substantially as described, which will in itself contain and secure the wedge, and yet leave it free to support the flange perpendicularly and to bind the rail laterally, substantially as described.

3d. I claim the combination of the lip C, with the flange of the rail and the wedge B; in other words, I claim the support of the flange by the lip and the supports of the lip by the wedge, affording a firm rest for the flange, at the same time preventing by this combination of wood and iron all vibration and jar.

4th. I claim the combination on the chair of the wooden plug *e* and the screw D, in the manner and for the purpose described.

No. 21,956.—PLINY F. HALL, of Troy, N. Y.—*Improvement in Railroad Chairs*.—Patent dated November 2, 1858.—The nature of this invention consists in forming a compound chair that will firmly grasp and hold the end of rails so as to entirely prevent them from working under the action of the train, and securing them to the tie by the same bolts that are used to draw the parts of the chair together, making a secure and permanent fastening for the ends of rails.

Claim.—The combination of the plates *b b c* and lips or jaws *a* and *c*, together with the draw bore spiking of the same, by which they are keyed and also wedged and fastened to the tie by one operation, all as specified and for the purposes set forth.

No. 21,986.—JAMES H. SIMMONS, of Painted Post, N. Y.—*Improvement in Railroad Chairs*.—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction of a chair raised in the centre for the ends of the rails to rest on, as shown at *c c*, and sloping from near the centre toward each end of the chair, leaving a space between the rails and the chair over the sloped portion to accommodate the spring of the rails, together with projections V V, as described.

No. 19,306.—JAMES MILLIKEN, of Philadelphia, Pa.—*Improvement in Manufacture of Wrought Iron Railroad Chairs*.—Patent dated February 9, 1858.—The pile is composed of a series of bars or pieces rolled into the several shapes shown in figures. These pieces are then put together in the following manner, the piece *a* is laid in the floor, the pieces *b* and *b'* are then placed on top of it, and *d* is laid across *b* and *b'*, covering the joint. The pile so made is carefully adjusted and inserted in the furnace in this condition. The pieces are then welded in the furnace so as to stick together, and are then passed successively through a series of grooves in rolls of the shape shown in the figures, and thus finally rolled into the shape as shown in figures.

Claim.—The manufacture of railroad chairs by forming a pile of the side pieces *b* and *b'*, in connexion with the pieces *a* and *d*, in the manner and substantially as described.

No. 20,057.—M. C. GARDNER, of Rochester, N. Y.—*Improvement in Buffer Heads for Railroad Couplings*.—Patent dated April 27, 1858.—The nature of this invention consists in a certain construction or adaption of two cast iron blocks seen in fig. 2, to the wrought iron draught bar fig. 1, so that they may form a suitable and efficient buffer head when united thereto.

Claim.—The peculiar shape of the wrought iron bar and cast iron

blocks described, whereby the whole may be easily and firmly united by means of the band B, fig. 3.

No. 20,040.—ELI T. CONNER, of the Borough of East Mauch Chunk, Pa.—*Improvement in Frogs for Railroad Crossings*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

I *claim*, 1st. The construction of a frog with a central part B raised above and projecting over the bar C, and also the ledges D D, in combination with the frog described, for the purpose of securing to the frog and making use of in combination with the frog any ordinary rail used upon railroads, substantially as described.

2d. The wedge and dove-tail shaped cavity E in the central part B, in combination as aforesaid, for the purpose of securing the point A, substantially as described.

3d. The cavities or depressions F G and F¹ G¹ in the base C, in combination as aforesaid, for the purposes substantially as described.

4th. The wedge and dove-tail shaped point A to fill the cavity E in the central part B, so constructed that the same can be removed for repairs, and removal in the manner described.

No. 21,942.—WILLIAM CHADWICK and S. J. B. ANDERSON, of Terre Haute, Indiana.—*Improved Railroad Ditching Machine*.—Patent dated November 2, 1858.—The nature of this invention consists in a series of levers arranged upon a railroad car and extending over the sides and arranged to hold or operate scoops or scrapers to take the earth from the side of the rail track to make a ditch by the side of the railroad on which the car runs that carries the levers. Also in making the scoops or scrapers, so that they can be worked either end forward, the same side up to be filled. Also in making a vibrating mouth piece to the scrapers that can be worked so as to aid in loading the scraper.

The inventors say: We *claim* the levers 2 4 7 and 9, arranged on a car, substantially as described, for holding the scoops at the side of the car, and for adjusting or raising and lowering them, as required.

We also claim the levers 1 3 5 6 8 and 10, arranged on a railroad car, as described, for operating the scoops so as to catch their load of earth, and for dumping them as required.

We also claim the scoops F F¹, made as described, so that they may be worked either end forward the same side up, to be filled.

We claim the vibrating mouth piece *x*, hinged to the scoop, so as to be vibrated substantially as described.

No. 21,067.—JAMES M. DICK, of Buffalo, New York.—*Improvement in Railroad Frogs*.—Patent dated August 3, 1858.—This invention consists in the arrangement of the rails, which form the frog, upon chairs by which either limb of the frog can be removed without disturbing the other parts; in the combination of a rebated chair with an underhanging jaw attached to the end of the movable rail, which, while keeping the rail from rising, also allows it to move a considerable distance longitudinally without interfering with its action, and

also allows it to be freely removed when the spikes are drawn, which hold the fixed part of said rail; and also in placing the frog upon chairs in such a manner as to leave an open space under the rails at the point of contact of the rail E, with rails B and C, to allow particles of dirt, &c., which might work in between the rails at this point, to escape.

The inventor says: I *claim*, first, the construction of the chairs and arrangement of the parts of the frog upon them, in the manner described, by which I am enabled to remove any part of the frog without disturbing the other parts, as set forth.

Second. The combination of the underhanging jaw upon the rail E, with the rebated chair K, as described, for the purposes set forth.

Third. Arranging the frog upon chairs in such a manner as to leave open space below the rails at the point where the rail E comes up to the rail B and C, substantially as and for the purpose set forth.

No. 21,426.—GARDNER R. LILLIBRIDGE, of Wayne county, Michigan. —*Improvement in Railroad Indicator*.—Patent dated September 7, 1858.—The nature of this invention consists in enabling any party employed on a railroad train (a brakeman for instance) to apply a key (which is kept in the possession of the party) to the indicator and exhibit to the view of the passengers on leaving a station the next station, together with the distance to the same, as also its distance from either end of the railway.

The inventor says: I do not claim the cylinders and scroll or the friction rollers, they being of ancient origin.

But I *claim* the trap or obscurer, in combination with my peculiar method of exhibiting the number of miles between stations.

I also claim a movable cradle, which contains and confines the cylinder's scroll and friction rollers in combination with the screw for regulating the tension of the scroll, for the purposes specifically set forth.

No. 19,675.—LEVERETT BALL, of Auburn, New York.---*Improvement in Railroad Rails*.---Patent dated March 23, 1858.---The claim and engravings will explain the nature of this invention.

Claim.—The use of plates C, inserted at the middle and ends of the sections of compound rails in combination with said sections, locked together throughout their whole length; thus binding the rail together like a solid continuous rail; the whole being constructed and arranged substantially as set forth for the purposes specified.

No. 20,007.---E. W. STEPHENS and RICHARD JENKINS, of Covington, Kentucky.---*Improvement in Railroad Rails*.—Patent dated April 20, 1858.---The claim and engravings explain the nature of this invention.

Claim.---Constructing a tubular T rail when the walls B B are welded, forced, or pressed together from C to C, or from the base of the rail up, as represented and before described, (or so near together that when the weight is placed on the rail in using it,) the walls will force together,) combined, with the walls made concaving on their outside at *d d*, from near the top of the rail down, a short distance

below where they are made to meet for the purpose of making the walls brace inwards, with which combined structure and form of rail we can make a stronger one with the same quantity of metal, as mentioned and described in the specification.

No. 21,097.—MICHAEL J. WALDRON, of Dunkirk, New York.—*Improvement in Connecting Railroad Rails*.—Patent dated August 3, 1858.—In the engravings *a* indicates the rails, *b* the chair, *c* the prolongation of the chair, *d* the sides of the chair, *e* the bolt, *f* the recess in the ends of the rails, *g* the key of the bolt, *h* the washer, *i* the nut, *k* the ties, and *l* the spikes.

The inventor says: I *claim*, first, placing the ends of the rails in a suitably constructed chair between two ties, both of the ties being used as a bearing or supporting surface to the chair, substantially as described.

Second. I claim the bolt in the enlarged recess in the ends of the rails and the jaws or lapped part of the chairs as an arrangement of means for forming an elastic or spring joint for the ends of the rails, as set forth.

No. 21,241.—SIDNEY A. BEERS, of Brooklyn, New York.—*Improvement in Railroad Rails*.—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction of cast or other iron rails, as set forth in the specification and drawings, when combined in their formation with the lugs or cleats *b b* and *c c*, as shown in figure 1, for the purpose of receiving a flat iron plate or wedge for securing the ends of the rails evenly together, and giving the rail additional strength at the point of connexion.

No. 22,376.—AUGUSTUS PLINTA, of New York, N. Y.—*Improvement in Railroad Rails*.—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction of a railway rail by forming the same hollow of an elliptical or oviform shape in cross section, the lower portion of the arch being extended into a foot or flange, and a segment of the upper arch being extended into a lip or face for the tread of car wheels, slots being made through the bottom and across the lower part of the body of the rail, substantially in manner and form and for the purposes set forth in the specification.

No. 20,928.—K. H. ALLEN, of Worcester, Massachusetts.—*Improvement in Connecting the ends of Railroad Rails*.—Patent dated July 20, 1858.—The nature of this invention is in the use of a chair *A* which extends from one tie to another, in conjunction with railroad rails which have open horizontal slots in their meeting end and an elliptical or spheroidal band *D*, which passes through the slots in the ends of the rails *E E* and underneath the chair and is fastened by an adjustable wedge *F* firmly in place. This arrangement so secures the joints of rails that the weight of the engine and train over the same does

not depress or deflect the point of junction to a greater degree than other portions of the rails are depressed.

Claim.—The combination of the rails E E, elliptical or spheroidal band D, chair A, and adjustable wedge F, all arranged and constructed substantially as and for the purposes set forth.

No. 19,555.—M. FISHER, of Trenton, New Jersey.—*Improvement in Splice for Joints of Railroad Rails.*—Patent dated March 9, 1858.—The claim and engraving will explain the nature of this invention.

Claim.—The combination of the sole piece *a*, forelocks *f*, and bolt or bolts *b*, for splicing the ends of rails on railroads, constructed, arranged, and employed substantially in the manner and for the purposes specified.

No. 21,014.—ELLWOOD MORRIS, of Philadelphia, Pennsylvania.—*Improvement in Splice Pieces for Railroad Rails.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim, broadly, splicing together the ends of two rails by plates bolted to the sides of the same, as this device has been heretofore used both in this country and in Europe.

But I *claim* splicing together the ends of the two rails A A' by means of a plate or plates B B' so bent and formed and so secured to the opposite sides of the two rails as to embrace the lower flanges of the same, and have longitudinal bearings against the sides and at points above and below the narrowest portion of the rails, leaving a longitudinal open space between these points, transversely through which space pass the bolts C for securing the splice, the whole being arranged substantially in the manner set forth and for the purpose specified.

No. 19,361.—HENRY T. HARTMAN, of Lexington, Va.—*Improvement in Railroad Snow Ploughs.*—Patent dated February 16, 1858.—As the snow is gathered at the mouth of the clearer A, it is forced up the short incline into the car. This car is divided by a partition *d*, which separates the car into two compartments C C. The floor of the car is made to conform to the two sides D D of the clearer. Doors or gates E E E E are employed on either side of the car, reaching down to the bottom of the inclined floor, where they are secured by bolts F F. When the compartments C C are filled with snow, the doors are raised and the snow falls off some distance from the track.

Claim.—The combination of the inclined clearer A with the double inclined bottom of the car, in the manner and for the purposes set forth.

No. 19,339.—JABEZ K. BABCOCK, of Honeoye Falls, N. Y.—*Improvement in Railroad Snow Ploughs.*—Patent dated February 16, 1858.—This improvement consists in having two oblong rectangular boxes A A placed parallel with each other upon a truck B, and so mounted that when filled they can be readily tilted, and the snow

discharged from them. An inclined plane C is mounted on wheels, and connected to the front end of the truck to form a share, and the outer sides of the boxes are provided with doors *b*, peculiarly arranged, so that they may, when necessary, be adjusted to form mould boards or deflectors, and the plough rendered capable of clearing the rails of snow.

The inventor says: I *claim* forming the body of the plough or device of two boxes A A, mounted on the truck B, substantially as shown, so that said boxes may be tilted for the purpose of readily discharging their contents.

I also claim, in combination with the boxes A A, the inclined plane C, mounted on wheel *e*, and applied to the truck D, substantially as and for the purpose specified.

I further claim attaching the doors *b* to the boxes A A by means of the rods *d* fitted in the pivoted bearings *j* at one end, and provided with hooks *k* at the opposite ends, whereby the doors are rendered capable of being adjusted either parallel with each other, and forming sides for the boxes A A, or in oblique positions to form mould-boards or deflectors, for the purposes set forth.

No. 19,847.—JOHN M. HARVEY, of Amsterdam, N. Y., and N. J. BECKER, of Florida, N. Y.—*Improvement in Railroad Station Indicator*.—Patent dated April 6, 1858.—The claim and engravings will give the reader an idea of the nature of this invention.

The inventors say: We *claim*, first, the arrangement of a series of separated printed indicating cards, plates, or boards on a flexible endless bolt or chain, and having the same revolve over a flat, square, or many-sided revolving shaft within a case which has a transparent front, substantially as set forth.

Second. The employment of a self-adjusting forked rod leading down to the railroad rails, and furnished with a catch on each prong, in combination with projections on the corners of the square or many-sided shaft, a reversing cam, and double inclines or bevel stops, arranged along the track at the different stations or streets, substantially as and for the purposes set forth.

Third. The combination of a spring self adjusting bell-hammer and bell with the square or many-sided shaft and its projections, substantially as and for the purposes set forth.

No. 19,880.—CHARLES J. SMITH, of North Prairie, Wis.—*Improvement in Railroad Station Indicators*.—Patent dated April 6, 1858.—This invention is intended as a railroad indicator for the purpose of indicating and announcing to passengers the names of stations on railroads.

The inventor says: I claim neither the cylinders nor the scroll, but I *claim* the shifting lever or bar B, and the mode of adjusting it by means of the index finger at the end of the crank shaft F in such manner as to cause the rollers or cylinders to revolve in opposite directions by means of the same application of power in combination with the pin or stops upon the lever A and the slots or openings in

the aforesaid shifting lever or bar B, arranged specifically as shown and described for the purposes set forth.

No. 19,304.—WILLIAM McVEIGH, of Boone, Ill.—*Improvement in the Mode of Operating Railroad Station Pumps*.—Patent dated February 9, 1858.—When a train passes over the road, every car upon which the roller I and toggle joint K are placed in position for operating, operates upon the double inclines C C¹ alternately, and by means of the levers D D¹ produces a reciprocating motion of the piston of the pump H. The levers F F¹ are made cam-shaped at the end, so that by turning them over into the position opposite to that in which they are represented, the incline to which it is hung is let down by lowering the bearing of the lever to which the cam-lever is attached.

Claim.—I claim the combination of the roller I, the inclines C C¹, the levers D D¹, the lever J, and pump H, arranged as described, for the purpose set forth.

No. 20,108.—BENJAMIN M. VAN DERVEER of Clyde, N. Y.—*Improvement in Machinery for Supplying Tenders with Water at Railroad Stations*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the application of the described pipes to the water-houses of railroad stations, or to any other place for the same purpose.

I also claim the combination of these pipe-heads and pipes, acting upon one bore or nipple, in the manner shown and described.

I disclaim the hinged joint.

No. 20,959.—GEORGE R. SMITH, of Ithaca, N. Y.—*Improvement in Railroad Switches*.—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the rack c, and pinion at the base of a perpendicular rotating or partially rotating shaft, when combined with a spring lever h, and a circle or a segment of a circle; said lever being fixed at right angles to said shaft a, and playing on said circle or segment, and into slots in the same, and said segment or circle being horizontal.

Further, I claim the above named combination when further combined with a signal lantern l, which lantern revolves wholly or in part when adjusted to the top of said shaft, said lantern having different colored glasses, and revolving on an axis drawn perpendicularly through the centre of said lantern.

No. 21,006.—S. N. LENNON, of Deposit, N. Y.—*Improvement in Signal Lantern for Railroad Switches*.—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that colored and sliding glass plates have been employed for signal lamps or lanterns and analogous purposes, and I therefore do not claim broadly the use of such plates.

But I *claim* attaching the colored glass plates or slides e f, two or more of which are placed at each side of the lantern, to a pendulous

frame *e* placed within the lantern, and arranged in such relation with the colored plates or slides *e f*, as to operate in connexion with the switch lever *F*, substantially as described and for the purpose set forth.

No. 20,620.—WALTER BRYENT, of Boston, Mass., assignor to DANIEL D. BADGER, of New York, N. Y.—*Improvement in Combined Railroad Track and Cast-Iron Pavement*.—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the combination of a cast-iron pavement and railway, cast and united together in suitable sections, substantially as described.

I also claim the combination of the tenons *a a*, mortises *b b* on the ends of the rails, and the alternate over and under lapping tongues *c d* on the edges of the pavement, substantially as specified, for the purpose of interlocking the adjacent sections of the combined pavement and railway.

No. 19,440.—PELATIAH OSGOOD, of Waterville, Me.—*Improvement in Railroad Track Clearers*.—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the mode of supporting each scraper, viz, by a chain or its equivalent, the swinging bar *B* or *B*¹, and the horizontal bar or bars thereof connected with the frame *F*, substantially as specified.

I also claim combining with each scraper supporter, made as described, a balance spring *I*, or equivalent device, and a pressure spring *l*, to operate in the manner and for the purpose specified.

I also claim the particular mode of making each scraper, viz, with a cleaning notch at its heel, and a riding curve at its toe or inner end.

I also claim applying the wing bars of the scrapers to their supporting bars, so that the former may have a lateral swing or play, and connecting the two swing bars, substantially as specified, viz, by a rod and spring, or equivalent devices, the whole being in order that the scrapers, while being drawn over the track, may be preserved in close contact with the inner edges of its rails, and pass obstructions, however the distance between the rails may vary.

No. 19,241.—FREDERICK P. DIMPFL, of Philadelphia, Pa.—*Improvement in Mode of Laying Railroad Tracks*.—Patent dated February 2, 1858.—*A A* are the rails, *B B* are the string timbers which are cut out on their inner or adjacent sides, to fit to and receive, each nearly one-half of their respective rail: *a a* are bolts which pass through the two string timbers and through holes in the rail, and are made by means of nuts *b b*.

The inventor says: I do not claim laying rails on string timbers.

But I *claim* the clamping of each line of rail between two lines of string timbers into which the rails are fitted, substantially as described, so as to receive not only a lateral, but a vertical support therefrom, both at the base and head, thereby increasing the bearing surface of the rail, keeping the several lengths of rail in place at the joints and other parts, enabling a lighter rail to be used than that ordinarily

employed, and making a less solid and at the same time a less flexible track.

No. 21,406.—E. U. BENEDICT, of Horicon, Wis.—*Improvement in Joints for Railroad Tracks*.—Patent dated September 7, 1858.—The object of this invention is to prevent the depression of the rails at the junction of the bars, and the consequent battering and lamination of the ends of the bars by the passing of the trains over them. It consists in a joint plate constructed, applied and secured to the ends of the bars in a novel manner to effect the above-named object.

Claim.—The combination of the ends of the rail A with the peculiarly constructed wrought iron T-shaped joint plate B, by means of the stirrup bolts c, which pass from the upper surface of the base b of the rail through the said base, and through the lips a of the plate B, and around the lower edge or pan of said plate, substantially as and for the purposes set forth.

No. 19,165.—CHARLES A. WAKEFIELD, of New Haven, Conn.—*Improvement in the Joints of Railroad Tracks*.—Patent dated January 19, 1858.—This invention provides a joint so made by having pieces of unequal size cut from the opposite sides of the head of the rail, so that when pieces of iron are bolted in, there is no part of a break more than one-third the diameter of the rail, and consequently the wheel always has a bearing of two-thirds of any part of the joint.

The inventor says: I do not claim, broadly, the employment of splice-pieces for the purpose of uniting the ends of rails, nor do I claim the invention of chairs, one portion whereof is so fastened as to form a false rail fitting into corresponding notches, cut out of the ends of the true rails, as in Hawley & Forbush's rejected device, 1854.

But I *claim* forming cavities of unequal length in the opposite sides of the heads of the two lengths of rail at the joint, and fitting to the sides of the neck of the rail two plates with upward projections to fill the said cavities, and form a continuation of the heads of the rail, substantially as and for the purpose set forth.

No. 21,971.—ELIAS B. LOWMAN, of Bell Air, Ohio.—*Improvement in Miners' Railroad Turn or Circular Switch*.—Patent dated November 2, 1858.—The nature of this invention consists in a circular section of a railroad track, combined with two straight sections crossing each other at right angles, at or near the centre of the outside rail of the circular section, in such a manner as not to obstruct the free passage of cars along the main straight track leading into the mines.

Claim.—The arrangement of the crossings, as seen at letters C D E F M N & L in fig. 1, together with its adaptation to the working of miners on either side of the entry by reversing its position on the main stem.

No. 21,007.—E. E. LEWIS, W. B. DUNNING, and C. WHEAT, of Geneva, N. Y.—*Improvement in Compound Rails for Railroads*.—Patent dated July 27, 1858.—This improved compound rail consists of a foundation rail in its cross section, composed of an upright web a with an ordinary flanch b projecting outward, and an inner one projecting inward as at c at the base. Over this is formed a cap rail of

wrought iron as seen at *c*; this rail fits over the top of the flanch *d* like a saddle, and forms the surface on which the wheels of the train roll.

Claim.—The cap and base rail, constructed as described and keyed together as specified and for the purposes set forth.

No. 19,433.—JAMES EDWARD MCCONNELL, of Wolverton, England, and WILLIAM SEATON, of Chester Place, Regents' Park, England.—*Improvement in the construction of the Permanent way of Railroads.*—Patented in England, June 24, 1852; patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventors say: What we consider to be novel and original, and forming the main features of this invention is the system or mode of constructing the permanent way of railways described, consisting in the use of right-angled triangular longitudinal sleepers and cross-ties in combination with wrought iron rails, when the latter are constructed on the plan specified, and when all the parts constituting the railway are united together and arranged in relation to each other, in the manner and for the purposes set forth.

No. 20,218.—STEPHEN SCOTTON, of Richmond, Indiana.—*Improvement in Implement for shooting missiles at Cows, &c., on Railroads.*—Patent dated May 11, 1858.—The nature of this invention consists in inserting a tube A in the front of a locomotive, and connecting said tube with the steam in such a manner that the steam may be allowed to blow off through the tube thereby projecting the contents of said tube along the track in advance of the locomotive.

The inventor says: I do not claim the tube for shooting or squirting steam at stock in front of a locomotive, for that has been done before.

Neither do I claim separately any of the parts described in the second claim.

But I *claim*, first, the combination of a tube and gravel feeder with a locomotive, for the purpose described.

Second. The arrangement for closing and opening the slide K when combined with lever J and tube A, substantially as described.

Third. The self-adjusting valve F in combination with the tube A, as herein described.

Fourth. The elastic disk E combined with the tube A and plug D, for purposes set forth.

No. 19,718.—WILLIAM SELLERS, of Philadelphia, Pa.—*Improvement in Turning and Sliding Tables for Railroads.*—Patent dated March 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—Interposing the central part or box between the ends of the truss rail beams, in such manner, substantially as described, as to make use of the width of the said central part or box as a portion of the length of the said beams, and the said beams and central box are so constructed and connected as to form a table entirely supported from the central part or box, substantially as described.

No. 20,828.—CORNELIUS A. STANCLIFF and JAMES MINGIS, of Williamsport, Pa.—*Improvement in Continuous Chair-Rails*.—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this improvement

Claim.—The combination and arrangement of the part A A¹ with the protected cushion D and with the continuous chair B which latter is adapted to form two lines of continuous rigid supports, one under each side of the body or tread of the rail whenever the elastic material is compressed to a certain extent, substantially as above described and for the purposes set forth.

No. 19,053.—LEVI B. TYNG, of Jersey City, N. J.—*Improvement in Rails for Railroads*.—Patent dated January 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A solid enlargement of the ends of railroad rails, in order that they may rest more firm on their foundation and for increasing their strength and solidity, thereby rendering them less liable either to fractures, wear, unevenness or destruction at their ends or joints, essentially in the manner described and set forth.

No. 22,103.—JOHN COCHRANE, of New York, N. Y.—*Improvement in Rails for Railroads*.—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The inventor says: In the manufacture of wrought iron rails or bars for railroad tracks, I claim the making or forming of such rails by means of rolls with additional metal upon the crown or head thereof, which additional metal is forced into the head or top part of the rail by a second process, thereby consolidating the head or top part of the rail, and hardening the bearing surface thereof, substantially as described.

No. 19,992.—JOHN B. HENCK, of Boston, Mass.—*Improvement in Rails for Street Railroads*.—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

Claim.—In a cast iron rail the combination of the supporting lap and dove-tailed dowel, the said dove-tail being cast on the said lap as set forth, whereby the rails are rigidly locked and prevented from rising or falling, or moving in either lateral direction.

No. 21,266.—JOHN C. MATHER, of New York, N. Y.—*Improvement in Rails for Switching Cars off the Track*.—Patent dated August 24, 1858.—The nature of this improvement consists in a new arrangement and combination of certain devices with the replacer of C. Perley (or any other constructed on a similar plan) whereby the cars can not only be easily replaced on the track when casually thrown therefrom, but whereby means are provided for switching them off the track, or from one track to another, should occasion require.

Claim.—Providing the shoe A with two frogs C and D in the manner and for the purposes substantially as set forth.

No. 20,248.—SIDNEY A. BEERS, of Kings County, N. Y.—*Improvement in Fastening Railroad Rails*.—Patent dated May 18, 1858.—The

nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim all the several parts or devices as set forth and described in the accompanying specification and drawing separately.

But I *claim* the use of a bolt or bolts with nut-key or clinch in combination with or as an improvement on the rail patented to me by Leuters Patent, dated October 27, 1857, the bolt passing directly through both rails horizontally, and also the form of the mortises separate or combined for the object and purpose set forth in the specification and claim, and for no other purpose, as by reference to the drawings will more fully appear.

No. 20,281.—SANDFORD MASON and EDWARD M. DAVIS, of Michigan City, Indiana.—*Improved Block for repairing T-Rails*.—Patent dated May 18, 1858.—The nature of this invention consists in constructing a jointed anvil capable of being easily opened and closed, and made so as to fit the T or other rail, for the purpose of holding them in proper position while they are being repaired.

Claim.—The method by which is combined the clamps B B with the bed-piece or main block A A by means of the studs or trunnions C C and the concentric bearings D E and E D, substantially as herein stated.

No. 21,480.—E. U. BENEDICT, of Horicon, Wis.—*Improvement in Joints for T-Rails*.—Patent dated September 14, 1858.—This invention consists in uniting the adjacent ends of T-rails by means of two upright plates which are applied one on each side of the rails, and are slotted to receive portions of the rails left projecting between notches cut in the base thereof, said notches receiving portions of the said plates between the slots, and the rails and plates being secured together by gibs and keys passing through the plates in such a manner as to support the ends of the rails.

The inventor says: I *claim* the combination of the rails with the side plates B B, by means of the slots *a a* in the plates, the recesses *b b* in the bases of the rails, the gibs C C C¹, and the keys D D D, the whole applied and operating substantially as set forth.

And I also claim forming the gib C¹ applied at the juncture of the rail with the downward rectangular projection *g* to serve as a stay between the plates, substantially as set forth.

No. 21,957.—WILLIAM HARVEY, of Albany, N. Y.—*Improvement in Joint for T-Rails*.—Patent dated November 2, 1858.—The plates C D, constructed and applied and tongued together by tongues passing through the rails and secured by keys *k k*, clamp and lock the rails together both vertically and laterally in a firm manner, so that neither can move without the other, and this method of clamping used in connexion with a plate which stands up flush with the tread of the rail on the outer side of the joint makes a track perfectly continuous.

The inventor says: I do not claim the invention of a plate which like the plate C stands flush with the face of the rails at the joint to

serve as a bearing for the wheels in passing the joint, as I am aware that numerous different modes of applying such plates have been proposed, neither do I claim generally the use of side clamping plates.

But I *claim* the arrangement and combination of the laterally tongued side plate D with the rails A, chair B, and side-piece C, as and for the purposes shown and described.

No. 22,168.—CHRISTIAN E. DETMOLD, of Orange, N. J.—*Improvement in the mode of securing the ends of Railway Bars*.—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The described method of joining rails at their ends to form continuity thereof, without the use of chairs or plates, of bolts or rivets, or of any other fastening, by inserting iron joint pieces of such shape as to fit into slots in the shanks of two contiguous rail ends, and at the same time afford a support to the head of said rails, whereby the rails are permanently kept in the same vertical and horizontal planes, and are allowed to expand and contract, substantially as set forth.

No. 20,452.—EDWARD W. STEPHENS and RICHARD JENKINS, of Covington, Ky.—*Improved Rollers for Railway Bars*.—Patent dated June 1, 1858.—The nature of this improvement consists in the combined arrangement of a pair of vertical rollers *a b c*, and furnished with grooves 10 11 12 13 14 to suit the required external form of the rail, which vertical rollers will be employed to close the walls of the rail any required distance apart as the rail passes the last time through and from the horizontal rollers.

Claim.—The combined arrangement substantially as represented of the horizontal and vertical rollers *a b c* and *d d*, when finished with grooves as represented, substantially for the purposes mentioned in the specification and represented in the drawings.

No. 22,031.—AUGUSTUS PLINTA, of Albany, N. Y.—*Improvement in securing the ends of Railway Bars*.—Patent dated November 9, 1858. The claim and engravings explain the nature of this invention.

Claim.—The formation of a smooth joint where the ends of hollow rails meet, by inserting therein a plug of iron or dowel, movable by a pin F in combination with a transverse wedge D, washers C C', and wedge-shaped spikes E E, combined and arranged substantially as described, when used without a chair.

No. 22,196.—JOHN F. PEABODY, of Salem, Massachusetts.—*Improvement in securing the ends of Railway Bars*.—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the improved mode of constructing the chair and rails, the same consisting in making the said chairs with the two reversed dovetailed recesses, and the rails with dovetails to enter such recesses, the whole being arranged substantially as and for the purpose described.

I also claim conducting the dovetailed recessed flanch-cap, with a

projection extending below it, in connexion with making the base plate of the chair with a recess to receive such projection, the same being in manner and for the purpose specified.

No. 20,841.—AMOS BURNHAM, of Taunton, Massachusetts; assignor to Himself and JAMES M. COOK, of Taunton aforesaid.—*Improvement in Railway Bridge Signalizer*.—Patent dated July 6, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: What I *claim* is my improved signal apparatus consisting of a series of pendants D D D and an arrangement of such as described, each pendant being of such weight as not to be capable of being so affected by ordinary aerial currents produced by a railway train or otherwise, as to be readily blown out of the way of a person on the top of a car or train or the load thereof while such may be passing under it, but still of a weight not capable of doing or causing material injury to such person under such circumstances, and each pendant being arranged at such distance from that or those next to it as to ensure contact with some one or more of them by a person when on the roof or load of a car, and being carried under them, and situated at such an elevation as to be in danger of injury from a bridge or obstacle toward which the train or car may be advancing.

No. 21,380.—JAMES H. SWETT, of Pittsburg, Pennsylvania.—*Improvement in Rolling Railway Chairs*.—Patent dated August 31, 1858.—The nature of this invention consists in cutting under or into the solid iron for the purpose of forming the jaw after the bar is rolled and bent into the proper form, and thus avoid the raising up and afterwards bending down of that part or portion which is to constitute the jaw of the chair.

The inventor says: I am aware that the portion of the metal that is to form the jaw or jaws has heretofore been raised up and then bent down into proper position. This injures the fibre of the metal, and makes a bad chair. I do not claim any such method.

But I *claim* the process of rolling railroad chairs, the cutting under or into the solid iron for the purpose of forming the jaw, after the bar is rolled and bent, and thus avoid the raising up and afterwards bending down of the part that is to form the jaw, as heretofore done.

No. 20,793.—WILLIAM HALL, of Springfield, Massachusetts.—*Improvement in Chairs for Railways*.—Patent dated July 6, 1858.—The purpose of this invention is to furnish a convenient splice for joining the ends of rails, which can be used without cutting or fitting the rails in any way therefor, by slitting, boring or otherwise.

The invention consists of a simple splice of metal D composed of the parts shown in the engravings; *a* is the sole plate on which the ends of the rails rest, *b* is the lips.

Claim.—The mode described for securing the ends of rails, constructed, arranged and combined in the manner and for the purpose set forth.

No. 21,899.—SAMUEL NICOLSON, of Boston, Massachusetts.—*Improvement in Rails for Street Railways*.—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim making the railway car wheel bearing surface of the rail, with a flat or slightly curved top, having its corners rounded down to quadrantal arcs, such being the common way of forming said rail.

But what I *claim* is making the rail with the straight or slightly curved inclined surface or plane *a c* arranged with respect to the surface of the street, as shown in figs. 2 and 3, and for the purpose specified.

I do not claim a concave curved guard *d e* for the flange guard, but what I do claim is an improvement in the guard in making it a flat plane, arranged as shown at *d e* in figs 2 and 3.

I also claim making the inside corner of the rail angular with reference to the upper surface of the horse tread as shown at *f* in figs. 2 and 3.

No. 19,704.—STEPHEN H. LONG, U. S. A., of Louisville, Ky.—*Improvement in Superstructure of Railways*.—Patent dated March 23, 1858.—*A A* are the rails, pierced with holes for the reception of rivets or bolts, to confine the rails to the sleepers, &c.; *a b* compensation grade plates pierced with holes or furnished with notches or mortises, corresponding to the holes at and near the ends of the rails; *b c* stationary or intermediate grade plates pierced with holes, corresponding to the intermediate holes in each of the rails; *d d* are the ribs of the abutting and common sleepers *C C*; *e e* the flanges or semi-ribs of the stationary sleepers *D D*; *f f* are the anchor plates connected with the abutting sleepers *B B*.

The inventor says: I *claim*, first, the combination of grade plates and ribbed sills, as set forth and for the purposes specified.

I also claim bolting the rails to the sill through the grade plates, in such manner as that the expansion and contraction (or creeping as it is termed) of the rails shall not be communicated to the grade plates, which allows said plates to retain their position regardless of the moving of the rails, substantially as stated.

No. 19,736.—ELEAZER S. GARDNER, of Philadelphia, Pa., assignor to Himself and JOHN H. GOULD, of said Philadelphia.—*Improvement in Tracks for City Railways*.—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: Disclaiming the exclusive use of a continuous tube with a slot on the top, as a device employed in atmospheric railways, I *claim* forming between the rails of a city railroad track an underground tunnel, and hanging a series of pulleys within the same, said tunnel having a longitudinal slot near the level of the ground, and being otherwise so arranged that a rope may be used for drawing the cars along the track without impeding the passage of the vehicles across the same.

No. 19,268.—WILLIAM H. WARD, of Auburn, N. Y.—*Improvement in Turning Tables for Railways*.—Patent dated February 2, 1858.—The nature of this invention will be understood by referring to the claims and engravings.

The inventor says: I *claim*, first, the combination of the turning platform arranged without a central pivot or its equivalent, and the grooved circular tracks, the sides of which form inclined planes sloping toward the centre of the grooves, with a series of balls arranged in the grooves, whereby the platform of the table is free to yield laterally to shocks, and again assume its central position.

Second. The combination of the curbing *l*, with the platform, track and balls, when arranged in the manner and for the purpose described.

Third. The combination of the clamping mechanism arranged as described, with the turning platforms by which the table may be stopped in any part of its revolution, and the lateral movement gradually arrested, as described.

Fourth. The combination of the clamping mechanism with the bell cranks, and connecting rods, or their equivalents, by which all the clamps are simultaneously brought into action by either of the clamping levers.

No. 21,060.—ELI BRAZLETON, of St. Louis, Mo.—*Improvement in Method of Removing Submarine Deposits*.—Patent dated August 3, 1858.—This invention is designed for removing mud, sand, or gravel, from within the holds of sunken vessels, and also any sunken or submerged articles designed to be raised. The invention consists in effecting the object by forcing a stream of water directly over the objects to be raised, or causing the said stream and the articles exposed or rendered accessible to submarine divers.

Claim.—Removing sand, mud, or gravel from within sunken wrecks, or from submerged articles, with a view of raising the same, by means of a current of water forced by any proper means through a tube or spout by which the current is directed and made to act at the desired spots, substantially as described.

No. 19,627.—WILLIAM T. DE GOLYER, of Schenectady, N. Y.—*Roofing Cement*.—Patent dated March 16, 1858.—The nature of this invention consists in preparing a roofing material or compound which is elastic and extensible to a certain degree in the middle or lower portion thereof, while the upper or exterior portion is made of metallic matter which by oxidizing expands and fills up the pores of the exterior coating, and at the same time becomes itself insoluble in water, so that an elastic and substantial roof is formed.

The inventor says: I am aware that it is not new to saturate canvas with tar and earthy matter to form a chemical roofing thereby.

Nor is it a new thing to mix iron filings or turnings with salt and water, or lime and water and salt, to make a cement to unite iron pipes, or even to form a chemical roofing, when such roofing contains no elastic basis to prevent cracking. I disclaim, therefore, all these devices. But I *claim* combining an elastic basis, consisting of tar, canvas, and earthy matter, as set forth, with a super-imposed coat of

iron turnings filled in with earthy matter, in the manner and for the purpose set forth.

No. 21,553.—GEORGE W. CUSHING, of Chicago, Illinois.—*Improvement in Roofing-Cements*.—Patent dated September 21, 1858.—The component parts of this cement are asphaltum, coal tar, and the pitchy residue known as “residuary gum,” which is separated from the fatty substances in the manufacture of stearic acid for what are known as “star candles,” or for other purposes. For the first coat there are used for every pint of coal tar six ounces of asphaltum and two and a half ounces of the residuary gum, but for the second coat, to obtain more body, there are used for every pint of coal tar eight ounces of asphaltum and two and a half ounces of residuary gum. These quantities serve for four square feet of roof.

Claim.—The roofing cement composed of asphaltum, coal tar, and the residuary gum specified, combined in about the proportions stated.

No. 19,695.—ROBERT GLENNON, of New Orleans, La.—*Improvement in Roofing-Cement Composition*.—Patent dated March 23, 1858.—The subject matters are composed of fluids and solids, as follows: First is a composition of three gallons of the spirits of turpentine with five pounds of Vandyke brown, which must be well stirred and kept until the others are prepared. Second is a composition of three gallons of alcohol with five pounds of gum shellac, which also must be stirred well. Third is a composition of five gallons of linseed oil, boiled, one pound oil of amber, one gallon of Japan varnish, six pounds of sulphate of zinc, and forty-six gallons of coal tar, mixed well together. These three compositions are then all mixed together, thus making the fluid portion. The solid portion is composed as follows: One half bushel of fresh slaked lime, four quarts plaster of Paris, four quarts of red ochre, four quarts of Spanish whiting. These ingredients are to be mixed together and dried in an oven.

The inventor says: I disclaim the compositions patented by R. H. Smith and C. R. Milks, in 1857, as differing from my invention.

What I *claim* is, the composition made up of the ingredients specified, in substantially the proportions and in the manner set forth.

No. 19,712.—BRADLEY L. PRIME, of Hamilton, Ohio.—*Improvement in Cement Composition for Roofing*.—Patent dated March 23, 1858.—The composition is made up of the following ingredients: One and a half gallons coal tar, half pound vegetable tar, twelve ounces brimstone, six ounces asphaltum, one and a half pound of India rubber, one ounce gutta percha, two ounces gum copal, eight ounces red oxide of lead, eight of red lead, eight of amber, sixteen Spanish whiting, four of hydraulic cement, and half pint Japan varnish.

The inventor says: I am aware that some of the ingredients used by me have been employed for analogous purposes in various proportions, and in combination with various other substances. Therefore, I do not claim broadly the employment of such substances in roofing composition.

But I *claim* the combination of the substances described, in sub-

stantially the proportions set forth, for the manufacture of a roofing composition.

No. 20,173.—RICHARD SIMONS, of Rockford, Illinois.—*Improvement in Cements for Roofing*.—Patent dated May 4, 1858.—The ingredients are as follows: To thirty gallons of coal tar is added two gallons of prepared India rubber (in turpentine) and two gallons of prepared gum shellac (in alcohol;) there is then added one gallon of boiled linseed oil and four and a half pounds of resin, well pulverized. They are put into a cask and let stand for one month, stirring it occasionally, after which is mixed with it a powder composed as follows: One peck good water lime, two quarts of plaster of Paris, two pounds of whiting, two of yellow ochre, and two and a half of Spanish brown, which must be well mixed and sifted through a fine sieve.

Claim.—I claim the composition of ingredients when compounded in the manner set forth.

No. 21,246.—ABRAM DAVIS, of Chicago, Illinois.—*Improvement in Roofing Compositions*.—Patent dated August 24, 1858.—In the engravings A is the boiler; *a* the fire door; *b* the man-hole; C the condenser; *d* the receptacle for the distillate; *e* the faucet; *f* the flue, and G the pipe and worm in condenser C.

Claim.—The method of applying a cement having the composition herein set forth, namely: by first saturating canvas, or other suitable fabric for roofing, with asphaltum softened and tempered with crude kerosine oil, or its equivalent, in the manner mentioned, and, secondly, by covering this layer or foundation with a cement formed of India rubber and other ingredients, substantially as set forth and for the purposes specified.

No. 22,343.—C. A. BRENNER, of Goshen, New York.—*Improvement in Composition for Roofing*.—Patent dated December 21, 1858.—The inventor says: To make the composition I take 18 gallons coal tar, 2 gallons resin oil, 2 gallons India-rubber solution, 2 gallons shellac solution, 2 gallons linseed oil, and place the whole in a kettle, or suitable vessel, over a moderate fire, and stir them well together till the mixture has its component parts well incorporated together. I also take the following: 15 pounds dry marl, 3 pounds alum, 2 pounds litharge, 3 pounds ochre, 1 pound borax, all pulverized, and mixed well together in a dry state. To every gallon of the fluid mixture, while still in its heated state, I add one quart of the pulverized mixture; the whole is then well stirred together.

Claim.—The composition consisting of marl and the other substances specified combined and compounded in about the proportions and in the manner substantially as set forth.

No. 21,927.—JOSEPH JOHNSON, of New York, N. Y., assignor to JOSEPH DITTO & Co., of said New York.—*Improvement in Composition for Roofing*.—Patent dated October 26, 1858.—The inventor says: I prepare the mica by first reducing it to a suitable size. In using the mica for roofing and covering the sides of buildings and boat-decks,

I use the mica reduced to a suitable size with any suitable glutinous water-proof material, such as coal tar, gas tar, oil, paint, &c, the composition being of such a consistency as to be easily spread with a stiff brush, and forming a covering to the roof, &c.; the mica is then spread in layers on this tar, paint, or other material, from the hand or otherwise, so that, by repeated coats, this flat, thin material will form in connexion with the other substances a strong, elastic fire and water-proof covering.

Claim.—The use of mica for roofing, covering the sides of buildings and boat decks, as set forth and described.

No. 21,643.—EMANUEL WISE, of Hannibal, Missouri, assignor to Himself and CHARLES L. WOOD, of St. Louis, Missouri.—*Improved Roofing Machine.*—Patent dated September 28, 1858.—One of the objects of this invention is to enable the operator to finish a joint by turning and passing it over the joint in an opposite direction. To do this the operator lets go the lever *m* from behind the hook or pin *g*, which lets the machine down to the position shown, and then by lowering or raising one end of the shaft *D* as the case may require, the machine may be passed back over the same joint and yet turn the cord lap in the same direction as the first one.

The inventor says: I *claim*, first, the combination of the adjustable wheel *C* with the two wheels *B B*¹ substantially as described, for the purpose specified.

And I also claim the combination of the two connecting rods *g* and *h* with the lever *m* and the axles *f*¹ *f*.

And I also claim the arranging of the wheels *B* and *H* against yielding bearings, substantially as described, for the purpose specified.

No. 20,636.—J. C. GASTON, of Oxford, Ohio.—*Improvement in Metallic Roofing.*—Patent dated June 22, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, connecting the plates for a metallic roof by means of yielding joints, consisting of only two thicknesses of metal, and formed by overlapping the flanges turned in the same direction on opposite edges of each plate, in combination with the boarding of the roof, formed of different thickness of plank, to correspond with the difference in the level of the plates when connected, and so arranged as to give support to the under side of the plates, and also to the joints, as described.

Second. Combination of the lock on the lower corners of the plates (formed by the hook *e* in one plate and the slot *f* in the other, or their equivalents) with a side-joint formed by the overlapping of the plates.

No. 20,059.—JOHN T. GRASSLE, of Hamilton, Ohio.—*Improvement in Roofing Tiles.*—Patent dated April 27, 1858.—This invention consists in a peculiar construction of tile for roofing, whereby leakage is prevented, and the several courses readily secured together.

The inventor says: I *claim* the groove *e* in the outer tongue *b*, the perforated flange *F*, shallow groove *d* and flange *f* of recess *R*, in

combination with the pin P and lap of the adjacent tile, substantially as and for the purpose set forth.

I, also, claim the combination of the double grooves $a a^1$ in the lap, tongues $b b^1$, flanges $f f^1$, f^2 , recess R, and shallow groove d , operating together as and for the purposes set forth.

No. 19,314.—STEPHEN SCOTTON, of Richmond, Ind.—*Improvement in Joints for Sheet Metal Roofs*.—Patent dated February 9, 1858.—The nature of this invention consists in forming a three-leaved metal plate in the form of the letter T, by soldering or by rolling iron or other metal. The perpendicular part of this plate is fastened to the woodwork of the roof, the edges of the meeting metal plates are turned up against the upright stem of this T plate, the top or cross piece is then bent down on each side, thus forming a water-proof cap or saddle joint and fastening.

Claim.—I claim forming a three-leaved metal plate, shaped thus, T, by soldering or rolling iron or other metal for securing the joints of metal roofs, substantially as set forth.

No. 19,661.—CHARLES HARTWELL, of Boston, Mass., assignor to LEWIS L. BARTLETT, of Brooklyn, N. Y.—*Improvement in Metallic Sash*.—Patent dated March 16, 1858.—This invention consists in constructing the sash in two parts, rubber or some similar elastic material being introduced between the glass and the sash in lieu of putty, so that the elasticity of the metal aids in maintaining a light contact with the glass to exclude water, while it allows the glass to warp or spring under the influence of temperature. It also consists in so forming and combining the parts, that the keys or nuts by which the parts are secured together, are let into or concealed within a deep groove to economize room.

The inventor says: I claim the construction and use of metallic sashes, composed of two parts C D, in the form substantially as above described, so that one or both the parts may yield by its elasticity, in combination with an elastic bedding F F, substantially as above described for the purposes set forth.

I also claim making the portion C of the above described metallic sash with a groove I, substantially as described and for the purposes set forth.

No. 19,941.—JAMES MCINTYRE, of New York, N. Y.—*Improvement in Illuminating Iron Rolling Shutters*.—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that iron and glass have been combined in various ways for vault lights, windows, and other parts of buildings, and therefore I disclaim such combination for all other purposes than the slats of rolling iron shutters.

But I am not aware that glass has ever been used in a rolling iron shutter, or that such a shutter has ever been made to possess the combination of characteristics herein mentioned.

I therefore claim the construction of rolling a shutter with its slats

of iron and glass combined substantially as herein described, to obtain the characteristics specified.

No. 20,236.—WILLIAM E. WORTHEN, of New York, N. Y.—*Improvement in Metallic Rolling Shutters*.—Patent dated May 11, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, a revolving shutter, composed of slats of double thickness of sheet metal, so formed at their edges substantially as specified that each slat shall interlock with its neighbor by being bent at the edge into a configuration substantially such as is set forth herein.

Second. I claim the combination of a series of such slats, having such interlocking edges substantially as described, with a chain on the sides thereof, said chain being constructed and combined with the slats substantially in the manner before made known.

No. 20,630.—WILLIAM W. CORNELL, of New York, N. Y.—*Improvement in Metallic Rolling Shutters*.—Patent dated June 22, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The improved sectional metallic shutter, composed of a series of sections, whose edges are first brought to the proper shape and then combined with each other by securing said sections to elastic metallic strips, substantially as set forth.

No. 21,011.—SAMUEL MATHEWS, of New York, N. Y.—*Improvement in "Flushing Valve" Trap for Sinks, Sewers, &c.*—Patent dated July 27, 1858.—The nature of this invention consists in a peculiarly constructed trap, located at the highest end of the inclined pipe *a* leading to the sewer immediately below the privies, or at the point where the pipes from the water closets, sinks, or leaders from the house are discharged. The peculiarity of this trap consists in the use of a valve 1 in connexion with an overflow culvert in such a manner that all solid matter is retained, together with a body of water, so that when the valve is raised the rush of water carries off the solid matter directly into the sewer.

The inventor says: I do not claim a culvert in itself, or valve for water closets.

But I *claim* the combination of the basin *d* and valve 1 with the overflow culvert 8 9 10 in the trap, substantially as and for the purposes specified.

No. 19,426.—FRANKLIN L. KNAPP, of Gosport, N. Y.—*Improvement in Snow Ploughs*.—Patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim throwing off the snow on the different sides of the machine at the will of the operator, as this has been done before.

But I *claim* the combination and arrangement of the inclined platform, provided with perpendicular knives F F, horizontal knives W W,

and ploughs *v v*, with the sliding gates *m m*, and their corresponding doors, said slide gates being operated by means of lever wheels *P P* and shaft *R*, all being so arranged and operated that the snow may be cut and all thrown off either on one side or the other of the machine, or at different depths and at different distances and different quantities, on either side of the machine that the nature of the case may require, as fully set forth and described.

No. 19,577.—JOSEPH H. PAWLING, of Philadelphia, Pennsylvania.—*Improvement in Snow Ploughs*.—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I disclaim the invention of the inclined plane *A A*, the lateral wings *D D*, the movable wing *g*, the cutters *C C C*, simply as such, the scrapers *S S S S*, simply as such, and every part and arrangement not after specifically claimed by me.

But I *claim*, first, the arrangement set forth in the said specification, or any other substantially the same, by which the cutters *C C C* are made to revolve upon their axes, and by which the movement of the truck in following the direction and curves of the rails is communicated to the cutters, and brings their edges and causes them to act always in the direction in which the plough is moving.

Second. The arrangement of the scrapers as before specified, or any other substantially the same, by which they can be elevated and depressed at pleasure, so as to be kept clear of the rails when the train is backing, and thus prevented from catching in the joints of the rails, and can be pressed against the rails when the train is moving forward at the will of the operator.

No. 19,950.—SAMUEL RICHARDS, of Philadelphia, Pennsylvania.—*Improvement in Snow Ploughs*.—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not desire to claim the adjustment of the vertical planes up or down the inclined plane alone, or the adjustment of said vertical planes to the right or left side separately considered.

But I *claim* as an improvement on my former patent of May 13, 1856, the snow plough having vertical planes made adjustable at the same time both up and down the inclined plane, and from side to side, whereby it is rendered equally effective in passing from light snow to deep snow, and in throwing the snow to either side of the track at pleasure, the whole being arranged and operating substantially as described.

No. 20,484.—JOHN B. CORNELL, of New York, N. Y.—*Improvement in Admitting Light and Air Through Steps, &c.*—Patent dated June 8, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—As a new manufacture an illuminating and ventilating riser for door sills, &c., composed of a perforated and partially glazed front plate *E* combined with an inner inclined glazed sash *C* substantially as set forth.

No. 19,070.—S. P. CASTLE, of Urbana, Ohio.—*Improvement in Stump Extractors*.—Patent dated January 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim broadly and irrespective of construction and arrangement, the employment or use of a rack and pawls for extracting the stumps of trees, for this is a well-known mechanical device and has been previously used for similar or analogous purposes.

But I *claim* the annular rack E placed within the socket D, the lower end of which is fitted in the plate C on the cross-tree B, so as to form a ball and socket joint or connexion therewith, the above parts being used in connexion with the lifting and retaining pawls J J F F, and the whole arranged as and for the purpose set forth.

No. 19,562.—WASHINGTON HALL, of Brewer, Maine.—*Improvement in Stump Extractors*.—Patent dated March 9, 1858.—*a b c d* is the frame work. A horizontal shaft *e* is hung in the uprights *a a*, secured by caps *f f*. This shaft has a ratchet wheel *g* on each end outside of the uprights; each ratchet is supplied with a lever *h*, a pawl *i*, and a catch *j*. The head of the lever is made of iron with two prongs *k k*.

Claim.—The combined arrangement of the simple levers *h h*, having their fulcrum in the windlass axle, with the ratchets *g g*, actuating and retaining pawls *i i* and *j j*, axle *e* and frame work *a b c d*, the whole so constructed and operating as to form a cheap and effective machine for the purpose set forth.

No. 22,415.—FRANCIS M. EAGLE, of North Manchester, Ind.—*Improvement in Stump Extractors*.—Patent dated December 28, 1858.—This invention consists of a stout frame, a roller with a rope, a large link, clevis and chain or hook, and two wheels to facilitate the moving of the machine. A more minute description would be too long for a place in this volume.

Claim.—Overcoming the resistance by the movement of a roller invariably connected with the stump, substantially as described, upon a track either rectilinear or curved, all parts of which, except the starting part of the roller, are exterior to a circle with the invariable connexion for a radius and the point of attachment of the hook for a centre, the operation being substantially as described.

No. 20,494.—FREDERIC KETTLER, of Milwaukee, Wisconsin.—*Improved Machine for Cutting out Stumps*.—Patent dated June 8, 1858.—The arms H embrace the stump on four sides, the apparatus is then secured to the stump by means of the screws *b*. A horse is then hitched to the end of the rope P, which passes over the drum *r*; the drum is rotated, thereby rotating the pulley Q, which imparts rotary motion to pulley R and wheel G, which latter operates the rim E, causing the latter together with the braces L, to turn on the frame A.

Claim.—The circular frame A, and the revolving frame E, in combination with the cutting apparatus, substantially in the manner and for the purposes set forth.

No. 19,146.—JOHN C. MATHER, of New York, N. Y.—*Improved Portable Railroad Switch*.—Patent dated January 19, 1858.—At the

end of plate A is secured an arm *d*, projecting horizontally from its outer side; this arm prevents any tendency of the plate *a* to rock as the car comes upon or rolls over it. In order to adapt the plate to the attachment of the feet *c*, so that the groove shall run diagonally across the rail, its ends are widened sufficiently to afford an attachment for a standard at each end.

The inventor says: I *claim* a portable switch, constructed in the manner substantially as and for the purpose set forth.

I also claim the arm *d*, as arranged, for the purposes set forth.

No. 20,367.—NATHANIEL PULLMAN, of New Oregon, Iowa.—*Improvement in Railroad Switch*.—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the bent switch rail with the shoe, when arranged in the manner and for the purpose set forth.

Second. The combination of the curved blocks with the shoe E F, and the switch rail for the purpose of regulating the inclination of the switch rail C to the track, and also its angle of divergence from the track, substantially as described.

No. 21,631.—CHARLES L. SPENCER, of Providence, R. I.—*Improvement in Railroad Switches*.—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The use of two frog guiding rails, having the tread rails immovable, but an inside movable section of each guiding rail capable of working simultaneously together, for the purpose of influencing the course of a train of cars when proceeding in one direction, and of preventing injurious consequences in case the switch is improperly set when the train is proceeding in the opposite direction, constructed, applied, and operated substantially as described.

No. 21,658.—CHARLES C. DODGE, of Marshall, Michigan.—*Improvement in Railroad Switch*.—Patent dated October 5, 1858.—This invention is capable of transmitting great power, and is so compact that it can be placed anywhere between or about the track without creating any inconvenience, and is equally adapted to a double as well as a single track by enlarging its capacity. It may be made durable by chilling the groove E, and providing the pin P with a friction roller. Instead of the grooves E and F, threads or tongues may be used on the cylinder C, working between rollers on the bar I.

Claim.—The application and use of the combined arrangement of the grooved or threaded cylinder C, lever L, guide pin P, pivoted target staff S, and pin tie bar I, and box A, for the purpose and constructed substantially in the manner as described and set forth.

No. 21,880.—SIMON HEYWOOD, of Claremont, N. H.—*Improvement in Railroad Switch*.—Patent dated October 26, 1858.—This invention consists in using in connexion with the ordinary switch-rails, a movable frog so arranged that the switch and frog will be operated simultaneously by the movement of a single lever, or shaft, and the frog,

as well as the switch, moved in line with the rails over which the train is to pass.

Claim.—The arrangement and construction of the bent or curved bars F G, having racks H attached and operated by a pinion J, as and for the purposes shown and described.

No. 19,397.—JOSEPH WOOD, of Jersey City, N. J.—*Improvement in Railroad Safety Switches.*—Patent dated February 16, 1858.—If a intend to pass from rails $k k$ to rails $e e^1$, or *vice versa*, the switch should be placed by the lever S into the position shown in *fig. 1*; while the switch is in this position the cars must pass from $k k$ to $e e^1$, and if by accident a train should pass along $d d^1$ towards the switch (while in this position) the cars could not possibly leave the track, but the forked rail $a^2 a^3$ would so direct the flanges of the wheels on that side as to force the wheels of the cars to run upon a^3 and upon the safety-rail b until the car reached the point p^1 , when the guard-rail c would keep the wheels in position, and direct them on to the track $k k^1$.

Claim.—The combination of the safety-rails $b b^1$, the forked rails $a^1 a^2 a^3$, and the guard-rails $c c^1$, arranged and operating in the manner and for the purpose described.

No. 21,530.—CHARLES WEED, of Milledgeville, Ill.—*Improvement in Mode of Filling Water Tanks at Railway Stations.*—Patent dated September 14, 1858.—The nature of this invention consists in a method of applying the weight of a locomotive engine to working a pump for raising water for supplying the tender by means of a compound leverage connected with the track, and a train of cog-wheels, by which sufficient motion is obtained from the sinking of the track slightly to operate the pump to the required extent.

Claim.—The combination and arrangement of the yielding track B, with the compound levers C g , connecting bars E, or their equivalents, weighted segment lever F, ratchet pinion h , and gear wheels as required, for giving motion to the pump lever L, substantially in the manner and for the purpose set forth.

No. 22,035.—SILAS T. SAVAGE, of Albany, N. Y.—*Improvement in Connecting Metallic Tiles, Plates, Beams, &c.*—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The application and use of hook and clasp-shaped terminals, formed and arranged as represented, at the ends or edges of malt kiln tiles and beams, or analogous structures, such as floors and beams of any kind, for the purpose of attaching them to each other, and supporting them firmly in a proper position, substantially as described, and for the purposes set forth in the specification.

No. 19,597.—WILLIAM WISE, of Washington, D. C.—*Improvement in Trenching Plough.*—Patent dated March 9, 1858.—The manner of operating this plough is as follows: The bottom of the trench is first broken up by the plough. The strap to which the swingle-trees are

attached being fastened on one side of the beam, tends to press the forward end of the latter towards the wall, which if not counteracted would cause the shares to run into the bank; but this is prevented by the guide-bar *f*, which holds the end of the beam off the wall, while at the same time it permits the plough to run as close to the wall as may be desired.

The inventor says: I *claim* the combination of the auxiliary share with the plough, substantially as described.

I also claim the combination of the guide-bar with the plough, substantially as described.

No. 19,685.—JOHN W. COCHRAN, of New York, N. Y.—*Improvement in the mode of connecting the sections of Metallic Funnels*.—Patent dated March 23, 1858.—In the engravings *a a a* show the rim or circumference of the tunnel, *b b* road ways or track, *c c c* vertical supports or braces, *f f* and *f f* upper and lower horizontal braces. These braces are welded to the arches of the tunnel at the different points of contact, *d d* are elevated walks for foot passengers, *e e* aqueducts for carrying fresh water from shore to shore, *i i i* are the inclined arms attached to the ends of the sections.

Claim.—The inclined arms *i* attached to the ends of the sections and couple *h* for securing and connecting the same, substantially as set forth.

No. 19,639.—GEORGE R. JACKSON, of New York, N. Y.—*Improvement in attaching the Glasses of Vault Covers*.—Patent dated March 16, 1858.—This invention consists in securing the glasses *b* within vault covers by means of a cement and the glasses having grooves or channels *a a* formed in them, which enables the cement to hold them in place.

Claim.—The tapering and grooved glasses in combination with the tapering and grooved apertures in the metallic portions of said covers substantially as shown, and for the purposes described.

No. 21,050.—THADDEUS HYATT, of New York, N. Y.; assignor to GEORGE R. JACKSON & Co., of New York, aforesaid.—*Improvement in illuminating Glasses for Vault Covers*.—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* combining glasses of an inverted pyramidal, polygonal or conical form, with the sash or metallic portion of an illuminating vault cover or its equivalent, for the purpose of producing a wide-spread and perfect diffusion of the rays of light which may pass through said cover into the apartment beneath, substantially as set forth.

No. 20,679.—EDWIN LEE BROWN, of Boston, Mass.; assignor to B. F. BROWN, of Bangor, Me.—*Improvement in Safety Vault Covers*.—Patent dated June 22, 1858.—When it is desired to open the cover from the inside, the guards *F* are swung toward the hinges *a* when they will clear the hooks *8*; the lid may then be raised and remain supported on the rests *4* until the shoulder *5* is tipped off from the

rests. The hinges *a* are formed with a lip 9 projecting back under the frame E which prevents the lid from being raised from the outside.

Claim.—The hinged lid E in combination with the guards F, so arranged as to support the lid when raised, and to lock it when closed, as set forth.

No. 22,069.—CORNELIUS DONALDSON, of New York, N. Y.—*Improvement in Vault Light*.—Patent dated November 16, 1858.—A is the curb, platform, floor, deck, or other place receiving the light or cover, which is to be of any desired size or shape. The light is formed by the upper plate *b* and the lower plate *c*, which are to be attached together by screws 1 1 after the glasses are in place, and the two plates are kept apart by blocks or lugs 2 2, and a rib and groove 3 3 complete the connexion of one plate to the other. Openings are provided at the desired position in the plates *a* and *b*, so that holes in the plates coincide with each other.

Claim.—The inventor says: I do not claim a vault light formed of several glasses set in a frame, as one or more glasses have heretofore been used, neither do I claim a double vault cover or roof with perforations in the lower plate or a pipe connected with the space thus formed, as the same is believed to be the invention of another party.

But I claim the annular flange 4 on each glass *d*, in combination with the supporting plates *b* and *c*, and the ring packings of rubber, or equivalent material, in substantially the manner specified.

No. 21,605.—MICHAEL GROSZ and PETER H. JACKSON, of New York, N. Y.—*Improvement in Metallic Frames for Vault Light*.—Patent dated September 28, 1858.—The nature of this invention consists in a peculiar frame of a U shape, to set over the aforesaid bars of the grating, and secure the strips or plates of glass; which, at the same time that they exclude dust, rain, &c., form a good surface for walking over.

Claim.—The U-shaped metallic bars receiving the glasses, in combination with the wrought iron bars of a grating, over which the said U-shaped bars set and are sustained, substantially as and for the purposes specified.

No. 20,721.—ELIJAH P. LEONARD and PETER H. JACKSON, of New York, N. Y.—*Improvement in Illuminated Covers for Vaults, &c.*—Patent dated June 29, 1858.—*c c* are cross-bars beneath the glass *b* passing from one part of the frame *a* to the other; the bars *c* being so arranged that the glass may rest their entire length or only at intervals upon their upper surface. The thimbles *a d* are formed with a head 1 above the glass and a screw 2 passing through the bar *c* with a nut 3. The grooves 5 are formed around the edges of the glass *b*, and provided with corresponding projections 6 6, which rise above the surface of the glass.

The inventors say: We do not claim the supporting the plate of glass at their edges or circumference, as that is old. Nor do we claim the use of glass generally for the within named purpose.

We claim, first, the use of a plate or plates of glass in vaults, covers, platforms, pavements, sidewalks, decks, or for similar purposes, which

plate or plates are supported from below, substantially in the manner specified.

Second. We claim thimbles, pins, or their equivalents, passing through perforations in a plate of glass or plates of glass, and formed with, connected to, or resting on a suitable support beneath the plates of glass, substantially in the manner and for the purposes specified.

Third. We claim grooving or notching the edges of the plate of glass for the purpose of receiving projections, occupying said grooves or notches, and thus protecting the edges of the plate of glass from injury, as specified.

Fourth. We claim the use of perforated plates of glass for pavements, sidewalks, decks, platforms, vault covers, &c., prepared substantially in the manner and for the purposes described.

No. 21,498.—WILLIAM H. HORSTMANN, of New York, N. Y.—*Method of building Walls under water*.—Patent dated September 14, 1858.

The inventor says: My invention is intended to prevent the necessity of a coffer dam or other like device to build walls under water, by which the cement is wholly retained and prevented from wasting or being removed from its proper position until it is set and become hard when laid in running streams or other moving waters that tend to remove the plastic cement before it becomes solid, by which I save great expense consequent upon constructing and removing coffer dams, as well as the waste of cement above spoken of, and secure the advantage of building under water and in still water without a complex apparatus by a simple structure.

In naming what he claims as new in this invention the inventor says: I *claim*, first, the sack or compartment formed by cloth or some equivalent thereof to produce slack water in a current or other movable water, and protect the cement from being washed away and wasted before it is hardened, as fully set forth.

I also claim, in combination with a flexible enclosure, the panels as above specified, and supporting the same by spiles, in the manner and for the purposes set forth.

I also claim the cement feeder, constructed and arranged substantially as and for the purpose specified.

No. 22,151.—J. M. BUTLER, of Oxford, Mississippi.—*Improvement in Apparatus for Boring Wells*.—Patent dated November 23, 1858.—This improvement in instruments for boring wells consists in making the boring chamber of square form, and divided within into several chambers by means of vertical partitions.

Claim.—The square-chambered auger *a*, constructed substantially as set forth.

No. 20,611.—HENRY ALBRO, of Covington, Kentucky.—*Improvement in Floating Revolving Wharf*.—Patent dated June 22, 1858.—The object of this invention is to facilitate the landing of vessels in unfavorable situations, and especially to enable ferry boats to make their berths endwise, when a strong current or other obstacles interfere. It is so arranged that a man on shore may revolve the pier to the right

or left, so that the main arm *b* of the pier will direct the boat and receive her into her berth with ease.

Claim.—The revolving or floating pier described, for changing the position of the berth of ferry boats, in order to facilitate their landing when strong currents or other obstacles interfere, the whole being constructed and employed substantially as set forth.

No. 21,648.—S. W. BIDWELL, of Hartford, Connecticut.—*Improved Rolling Window Blind.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, so hanging the roller *C*, upon which the blind is hung, that it shall traverse in a horizontal plane (or nearly so) by means of the racks *k k* and toothed journals *i i*, or their equivalents, substantially as and for the purpose set forth.

Second. In connexion with the above the combination with a rolling blind of a weighted cord *b*, arranged with a helically grooved pulley *E*, on the end of roll *c*, or in any other way substantially the same, for the purpose of counteracting the weight of the blind, as described.

Third. The combination with the traversing roll *c* of a weighted, self-adjusting "friction fixture," consisting essentially of a weighted case *e*, and enclosed pulley *m*, the whole constructed and operating substantially as described, for the purpose set forth.

Fourth. So arranging the tapes *a a* of a rolling blind with the shaft *c*, on which the slats are wound, that the slats may be shifted by the partial rotation of said shaft, as described.

No. 22,177.—ISAAC W. GERE, of South Granby, New York.—*Improved Machine for Making Window Blind Slats.*—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A machine that will take a rough slat, as it comes from the bolt, and automatically pass it along to and past the series of mechanical devices that will plane, dress and form the tenons thereon, and complete the slat before it leaves the machine, substantially in the manner described and represented.

No. 21,417.—A. HERDER, of New York, N. Y.—*Improvement in Window Blinds.*—Patent dated September 7, 1858.—This invention consists in attaching a series of wire cloth strips to the blind in such a manner as not to interfere in the least with the opening and closing of the slats, and at the same time effectually close the spaces between them, so as to prevent insects from passing through between them.

Claim.—The wire cloth strips *E* attached to the window blind, to form a combined blind and insect bar or net, substantially as set forth.

No. 20,576.—CHARLES NEER, of Troy, New York.—*Improved Metallic Window Blinds.*—Patent dated June 15, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, connecting the slats of metallic

blinds by means of staples inserted into a folded metallic strip, when bent up and secured, substantially as specified.

Second. I claim the circular spring tenon formed on the ends of sheet metal blind slats, substantially in the manner specified, to be inserted into the hole in the stiles, and cause the necessary friction, but prevent the tenon bending, as set forth.

Third. In combination with said sheet metal blind slats, I claim the metallic frames formed of the detachable rails and tapering stiles, in the manner and for the purposes specified.

Fourth. I claim bevelling the stiles each way from the line of holes receiving the ends of said metallic blind slats, for the purpose of giving freedom to the slats when opened, but forming a tight joint when closed, as set forth.

No. 21,732.—W. H. BABCOCK, of Homer, New York.—*Improvement in Method of Adjusting Window Blinds*.—Patent dated October 12, 1858.—This invention consists in having an arbor pass horizontally through the casing near the lower part of the blind, said arbor being allowed to slide longitudinally in its bearings, to a certain extent, so that a conical screw or spiral flanché pinion, which is on the outer end of said arbor and gears into a toothed wheel on the blind, may be connected with, and disconnected from, the arbor as desired; a toothed wheel being also placed loosely on the arbor, which wheel, when the blind is closed, gears into a segment rack on a lever which is connected with the slat rod, the whole being arranged whereby the blind, by adjusting the arbor and properly turning the same, may be opened and closed at the inner side, within the room, without raising the sash and the slats; when the blind is closed, also adjusted.

Claim.—The sliding spindle or arbor for alternately engaging the two mechanisms which severally move the slats and open the shutter, so as to operate either mechanism by the same handle, substantially as shown and described.

No. 19,488 —THEODORE CHRISTIAN, of New York, N. Y.—*Improvement in Operating Window-Blinds*.—Patent dated March 2, 1858.—In this invention a series of pulleys *c c* are applied within a cavity *a* in one of the stiles *A* on one side of the blind, one on each tenon of the slot, and an upright rod *D*, to which are connected the ends of a series of short bands *d d*, one of which passes round and is secured to each of the pulleys, the rod being also within the cavity in which the rollers are contained.

Claim.—Tightening the straps *d* by adjusting the pieces *e e*, as described.

No. 20,996.—ANDREW FERBER, of Elizabeth City, New Jersey.—*Improvement in Operating Window Blinds*.—Patent dated July 27, 1858.—The slats are attached to a rod and fitted in one of the stiles of the blind, and the rod is attached to the stiles so that the rods cannot obstruct the light nor act as encumbrances, and the slats cannot turn or move casually.

The inventor says: I am aware that the rods of blind slats have

been connected to the ends of the slats, and arranged in various ways; a patent, for instance, was granted to L. Stevens and S. B. Elithup, June 26, 1855, for an improvement in window blinds, in which the tenons of the slats were forked, and the rods connected to them. A patent was also granted to T. Christian, March 2, 1858, for improvement in window blinds, in which pulleys were attached to the ends of the slats. Both the cases above referred to differ essentially from mine.

I do not claim broadly operating the blind slats by a mechanism connected with one end of them.

Nor do I claim broadly a rod attachment at the ends of the slats.

But I *claim* the rod *c* fitted in one of the stiles *a* of the blind and provided with pins *i*, which are fitted in oblique slots *e* in plates *d* attached to the ends of the slats, the parts being arranged substantially as and for the purpose set forth.

I also claim the rod *c* attached to the slats *B*, as shown, in combination with the spring *k* fitted within the mortise *j* and attached to the stile *a*, the whole being arranged substantially as and for the purpose set forth.

No. 21,408.—THEODORE CHRISTIAN, of New York, N. Y.—*Improvement in Operating Window Blinds*.—Patent dated September 7, 1858.—In this invention the slats are made in the ordinary way, but the tenon which forms the axis of the slat passes into the stile into a hole considerably larger than the tenon. There is a groove or deep channel in one stile, seen at *c*, into which the tenons above named enter through the large openings within the channel. The tenons all bear small pulleys *d* of metal, and they have a metal gudgeon *e* driven into their ends and projecting sufficiently beyond the pulley *d* to enter a metal bearing *g*.

Claim.—The inventor says: I claim the coupling the slats together, as described, and connecting a whole panel by means of a rod, in the manner and for the purpose set forth, grooving the rod in a straight line.

I also claim taking the bearings of the tenons upon the inside of the channel therein, and beyond the pulley, as and for the purpose specified.

No. 19,362.—SEBASTIAN HAAS, of Buffalo, New York.—*Improvement in Window Frames*.—Patent dated February 16, 1858.—In the engravings *f* and *f*² *g* and *g*² are the grooves which conduct the sash into and out of the frame. *O* *O* and *O*¹ *O*² are pins or nibs projecting from the upright stiles of the sash, and are made to fit the grooves and hold the sash in its place.

Claim.—The arrangement of the grooves *f* *f*² *g* *g*² and *h* in the frame, and the operation of the sash, as described.

No. 21,136.—ROSS JOHNSON, of Frederick, Maryland.—*Improvement in Hanging Window Sash*.—Patent dated August 10, 1858.—The nature of this invention consists in side boxes, constructed on the face of the jambs and arranged in front and at right angles to the face of

the sash, in combination with narrow oblong weights and with pulleys arranged in a manner adapted for the use of said side boxes and flat weights.

Claim.—The side boxes G G, constructed on the face of the jamb *a*, and arranged in front and at right angles to the face of the sash, in combination with narrow, oblong weights D D and with pulleys E F, arranged in a manner adapted for the use of side boxes and flat weights, substantially as and for the purposes set forth.

No. 22,365.—THEODORE F. HALL, of Marietta, Ohio.—*Improvement in Hanging Window Sash.*—Patent dated December 21, 1858.—F is the window frame; T the upper sash; L the lower sash; C the cord supporting sash T; K the cord supporting sash L; P P¹ P² pulleys on window frame; G grooves in the sashes; R pulley on friction rollers in the grooves in the sashes; I the point where the cord C is attached to the frame; J the point where the cord K is attached to the frame; W W¹ weights attached to cords C and K; W² weight in box frame.

Claim.—The employment and arrangement of pulleys or friction rollers at the lower corners of the sash and the balancing of the sash on cords, in combination with pulleys and weights or a weight, substantially as set forth.

No. 19,301.—ROBERT H. KIRCK, of Utica, New York.—*Improvement in Removable Window Sash.*—Patent dated February 9, 1858.—The object of this invention is to admit of the sashes of windows being removed from their frame or casing without detaching the stop strips or parting beads; this is effected by the employment of a sash, divided and hinged in the centre, and also provided with a catch so that it cannot come out by accident, but can only be removed by a person who releases the catch.

The inventor says: I *claim* jointing the sash or sashes of a window at the centre, substantially as described, so that they may be removed from the casing without detaching the parting beads or stop strips, the sash or sashes being provided with a catch, or any equivalent device, to prevent the casual folding of the same.

No. 19,267.—FRANCIS THRASHER and HENRY B. HORTON, of Akron, Ohio.—*Improvement in Fastening for Window Sashes.*—Patent dated February 2, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventors say: We *claim* the friction strip C riding upon an inclined plane and operated by a spring so as to be self-locking, for the purpose of fixing the window sash at any desired height, as set forth.

No. 20,857.—DANA BICKFORD, of Westerly, Rhode Island.—*Improvement in Spring-Pulley for Window Sashes.*—Patent dated July 13, 1858.—The use of the friction wheel D is to prevent the sash from sagging when it is covered with ice or snow, it being arranged with a ratchet C in such a manner as to turn when the sash is pulled down,

and when the sash is raised the ratchet allows the spring case to run freely and give the full force of the spring in raising the sash, thus providing a means of balancing the sash.

The inventor says: I do not claim either of these devices separately.

But I *claim* the combination of the friction wheel, or its equivalent, and the bearings of the pulley with the lip, as described, in connexion with other parts of the spring balance.

No. 19,348.—JOHN B. CORNELL, of New York, N. Y.—*Improvement in Metallic Window Shutters*.—Patent dated February 16, 1858.—The frame *b g h* is of T-shaped iron, to which is secured, by means of the rivets *e f*, two thicknesses, *c d*, of sheet iron. The border of the iron casing *d* is trimmed off even with the edge of the outer flanch *g* of the frame, the casing *c* is fitted within the portion *b* of the frame, and rests upon the flanch *h*, the rivets *e e* pass through both casings, and through the flanch *h*, the rivets *f f* pass through the border of the casing *d* and through the flanch *g* of the frame, which will firmly unite the respective parts.

The inventor says: I *claim* constructing metallic shutters, doors, &c., of double casings of sheet metal, combined with a frame composed of T-shaped metallic bars, substantially as set forth.

No. 21,916.—TURNER WILLIAMS, of Providence, Rhode Island.—*Improved Window Stop*.—Patent dated October 26, 1858.—The claim and engraving describe this invention.

Claim.—The described window stop consisting of the roller *c*, shank *m*, spring *E*, and lever *k*, or their equivalents, in combination with the inclined surface *d*, and operating in the manner substantially as set forth.

X.—LAND CONVEYANCE.

No. 19,762.—WILLIAM B. FAHNESTOCK, of Lancaster, Pennsylvania.—*Improvement in Axle Boxes*.—Patent dated March 30, 1858.—The object of this improvement is that the ends of the axle *D* revolve at the same time that they describe the necessary arc of a circle, thereby giving the wheel freedom to follow the line of the rail, and preventing the sliding and friction of the wheels on or against the rail.

Claim.—The combination of the axle and boxes, arranged and constructed as described, for the purpose of allowing the axle to turn and accommodate the wheel to the direction of the rail.

No. 21,998.—HENRY HOWSON, of Philadelphia, Pa., assignor to ISAAC P. WENDALL and JACOB L. WENDALL, of said Philadelphia.—*Improvement in Axle Boxes*.—Patent dated November 2, 1858.—This invention consists in a combination of a box, bearings, and keys, the interior of the box being arched and terminating on each side at recesses

formed in the sides of the box, the keys being adapted to fit into recesses and against the edges of the bearings.

Claim.---The combination of the box with the bearings B and B¹, and retaining keys C and C¹, when the interior of the box is arched on the top, when the said arch terminates on each side of the recesses g g, formed in the sides of the box, when the keys are adapted to fit into the recesses and against the edges of the bearings, and when the several parts are arranged in respect to each other, substantially in the manner and for the purpose set forth.

No. 21,943.—JOHN W. COCHRAN, of New York, N. Y.—*Improvement in Car Axle Boxes*.—Patent dated November 2, 1858.—A is the outside or shell of the box, B the packing disk or stuffing box, C the lubricating cell or well for holding the lubricating liquid, D the axle, e the packing of felt, leather, hide, or gutta percha, e¹ recess in the collar for packing between the collar and the axle, f the point between the shell of the box A and disk B; g the door of the box, h the feed-hole, j j the bolts, j¹ j¹ slots in the ears or lugs of the box, i a set screw for elevating and adjusting disk B. The sliding collar on the box axle is marked a and the slit in it a¹ for the pin a² of the axle.

The inventor says: I *claim*, first, the sliding collar a, constructed and arranged upon the axle and in relation to the packing of the box, as set forth.

Second. I claim the arrangement of the lubricator, door, disks, packing, follower, and bolts, as described, whereby the whole may be adjusted to the bearing brasses, as set forth.

No. 20,991.—DAVID CUMMING, of Sorrel Horse, Pa.—*Improvement in Axle Boxes, &c.*—Patent dated July 27, 1858.—The nature of this invention consists in dividing the inner portion of the box into two parts longitudinally, the said parts being confined upon the shaft by a solid ring, and in the peculiar formation of the outer ends of the axle and box.

The inventor says: I *claim*, first, the peculiar form of the outer end of the axle c and tapering hole e in box F, when the said axle and box are arranged relatively to each other as described, for the purpose set forth.

Second. The combination of the two inner portions E and E¹ of the box with the clasp C, as and for the purposes described.

No. 21,652.—JOHN W. COCHRAN, of New York, N. Y.—*Improvement in Lubricating Car Axles*.—Patent dated October 5, 1858.—a a marks the car box, b b the axle, c c the lubricating wheel or rotary feeder which, it will be seen, very nearly touches the sides of the opening in the diaphragm, thus controlling or limiting the quantity of fluid fed by the wheel from the well or chamber to the axle; d d is the flat spring to support the lubricating wheel and keep it up at the axle, e e the well or chamber to contain the lubricating matter.

Claim.—In connexion with the spring and wheel, the inclined diaphragm g, having the space for the play of the wheel, and access to the wheel and spring as described.

No. 20,535.—WILLIAM D. ARNETT, of Chicago, Illinois.—*Improvement in disconnecting Car Axle Boxes from Pedestals*.—Patent dated June 15, 1858.—In figures K M, 13 13 is a flange furnished with lugs 4 4, and attached to the upper bars of the truck. The box 5 is placed up against the flange 13 so that the lugs 4 4 will come in the recesses 11 11 made in the sides of the box-case 5, and the stay-bar 16 holds the box in its place with the nut and screw-bolts 14 14, and thus prevents the box case from slipping laterally; and when it is required to take the box from the truck, the nuts 14 are unscrewed sufficiently to let the stay-bar 16 fall sufficiently to free the box case from the lugs 4 4 on the flange.

Claim.—The lugs, recesses, and grooves, arranged with the pedestals and box cases for disconnecting the box cases from the sides of the pedestals, as set forth in the specifications and for purposes described.

No. 19,290.—GEORGE W. GEISENDORFF, of Indianapolis, Indiana, and JACOB C. GEISENDORFF, of Cincinnati, Ohio.—*Improvement in Railroad Car Axle Boxes*.—Patent dated February 9, 1858.—A represents a portion of the axle, B a portion of the box. The box is slotted *b* through its top, and recessed *b*¹ on the inside, so as to receive the ends of a casting C D E F and hold it firmly against lateral displacement. This casting consists of a rectangular block C crowned by a flange D and having in its under side an arch-like cavity E. A short distance below the flange the casting is pierced transversely by a slot F, to receive a key G, by which it is held to its place in the box.

Claim.—The lug C D E F G, constructed as set forth, or equivalent device, in the described combination with the axle A and box C.

No. 19,741.—R. N. ALLEN, of Cleveland, Ohio.—*Improvement in Railroad Car Axle Boxes*.—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the self-adjusting collar or washer F, in combination with the slide-partition G and packing *c*, operating in the manner and for the purpose specified.

Second. I claim the box B and key C, provided with articulating surfaces *s*¹ *s*¹, in combination with the key D, for the purpose of relieving the axle from strain and of conveniently removing and replacing the box B and collar F, by simply relieving the axle from strain without removing it, the whole being constructed and arranged substantially as specified.

No. 19,840.—GEORGE W. GEISENDORFF and JACOB C. GEISENDORFF, of Cincinnati, Ohio.—*Improvement in Box Cases and Lubricators for Railroad Car Axles*.—Patent dated April 6, 1858.—The inventors, in describing their improvement, say: The object of our improvement is to prevent the waste or loss of oil by its following longitudinally on the car-axle. We accomplish this object by the employment of a spring-stripper *e* placed inside the box-case, which removes the surplus oil from the car-axle B and returns it to the reservoir. In addition to the stripper we use an expansible or clasp packing, to which the stripper is attached; said packing renders the use of the stripper

more perfect and completely prevents the entrance of dust to the journal and box inside of the box-case.

Claim.—The employment of the divided packing *a a*¹, in combination with the springs *c c* and *d d*, constructed substantially in the manner and for the purposes set forth.

No. 19,530.—ISAAC P. WENDELL, of Philadelphia, Pennsylvania.—*Improvement in Boxes and Journals for Railroad Car Axles.*—Patent dated March 2, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that intermediate collars have been heretofore used for the purpose of lubricating axles; but in all instances such collars have fitted tightly into recesses in the upper bearing, which thus prevents efficient lubrication. I disclaim, therefore, the exclusive use of a central lubricating collar.

I *claim* employing, in connexion with the boxes and journals of car axles and other shafts, a central lubricating collar, revolving in an oil chamber formed in the lower bearing, in combination with a recess in the upper bearing, when the said recess is wider and deeper than the collar, as set forth, and for the purpose specified.

No. 19,095.—DAVID MATTHEW, of Philadelphia, Pa.—*Improvement in Railroad Car Boxes.*—Patent dated January 12, 1858.—In the engravings A is the box, B the hole through which the journal passes, C the oil cellar, D D the bearings of brass, *x* the oil cup, E a slot cut entirely through the brass and extending the whole thickness of the box.

The inventor says: I am well aware that it is common to use a slot in journal bearings for purposes in connexion with lubrication, but they have no such effect as mine, and I do not wish to be mistaken as using a mere modification of such a slot or crease, or as claiming any such arrangement or device.

But I *claim* the peculiar construction of journal box having a longitudinal slot or opening so proportioned to the relative vertical and horizontal strains as to produce the results substantially as set forth.

No. 21,996.—J. N. WARD, of Brooklyn, N. Y.—*Improvement in Car Brakes.*—Patent dated November 22, 1858.—The trucks are made in the ordinary way and have suspended opposite each wheel outside a brake piece *a*; a stout bar *b* extends from one brake piece *a* to the one opposite thereto across the car, and to the centre of this bar a pulley *c* is affixed; as each pair of brakes *a* are thus furnished the two pulleys on each truck stand opposite each other; a chain *d* passes around these pulleys, and one end of it is affixed to the ordinary upright windlass *e* at the end of the car, the other extends back to the other truck and around the pulleys of the brakes thereon, and thence to the windlass on the opposite end of the car.

Claim.—The combination of the pulleys and brakes, together with the mode of operating the same, the whole being constructed and arranged as specified and for the purposes set forth.

No. 22,291.—JOSEPH HOUGH, of Buckingham, and JACOB MOORE, of Bart, Pa.—*Improvement in Car Brakes*.—Patent dated December 14, 1858.—A represents a rectangular frame in which the axles B B of the wheels C are placed as usual. In each side of the frame two levers D D are placed, said levers working on fulcrum pins *a*. To the lower end of each lever D a shoe E is attached, said shoes being below the horizontal plane in which the axles B B are placed. To the upper end of each lever D a horizontal slide F is attached by a pivot or pin *b*. These slides are fitted in grooves *c* in the upper part of the frame, and two slides at each side of the frame.

Claim.—The arrangement and combination of the slides F and levers D J, as and for the purposes shown and described.

No. 19,012.—JOHN L. BRANCH, ISAAC BRANCH, and DANIEL W. BRANCH, of Charleston, S. C.—*Improvement in Railroad Car Brakes*. Patent dated January 5, 1858.—The nature of this improvement consists, first, of the immediate application of steam power by the engine driver to the brake locks on all cars having brakes. Secondly, of a drum E secured to the bottom of the tender and applied with a chain E¹. Thirdly, the manner in which the brake levers *i i*¹ are worked, whether the train be moving backwards or forwards.

The inventors say: We do not claim in general terms the idea of drawing the upper end of the brake levers *x x*, &c., towards the center of the car (thus clamping the wheels with the brake blocks) by a winding up of the chains at the end of rods *m m*, for this has been done already by means of a rod passing up into a car with a wheel fixed at its upper end, and worked by a man usually called a brakeman.

But we *claim* the drum arranged and worked as set forth.

We claim to operate the brake blocks of a continuous train of cars by means of a steam cylinder or hand power, in combination with the drums, levers, and chains, substantially as set forth.

We also claim the drum E and the surplus chain E¹, the object and use of which is substantially set forth in the specifications, as are also our other claims.

No. 19,157.—THOMAS W. SMITH, of Alexandria, Va.—*Improvement in Railroad Car Brakes*.—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the use of a bumper or other equivalent sliding-piece for regulating by its motion the tension of a brake chain, except under the construction and combination which I here set forth as of my invention.

I *claim*, first, the employment of the rods A A¹ at each end of the car united by flexible connexions passing round compensating pulleys, substantially as set forth, said rod transmitting the braking power by mutual contact of their outer ends or heads, as set forth.

Second. I claim the compensating apparatus, substantially as set forth, the same consisting of the pulley levers E E¹, with one end attached to the car and the other to the bumpers, and the pulleys C C hung at the centres of these levers for tightening or slacking the

chains B B¹ so as to vary the distances of the ends of the rods A A¹ directly with the variations of the bumpers or the distance between the cars.

No. 19,223.—GEORGE W. WINDSOR, of Allegheny, Pa.—*Improvement in Railroad Car Brakes*.—Patent dated January 26, 1858.—This invention consists in the use of a brake for locomotive or railroad cars operating to stop their progress by pinching the rails on which the wheels run, which is effected by means of levers *d d* working in the threads of a screw *s* cut on the axle *c*, operated at the will of the brakeman.

Claim.—The use of a brake constructed as described and operating at the will of the brakeman by means of levers working in the threads of a screw cut on the axle of the car or locomotive wheels, to pinch the rails on which the wheels travel and thus retard the progress of the cars.

No. 19,192.—SAMUEL GUMAER, of Chicago, Ill.—*Improvement in Railroad Car Brakes*.—Patent dated January 26, 1858.—The object of this invention is to check the rotation of the wheels without stopping them, and arrest the motion of the car by the friction of a shoe forced upon the rail.

The inventor says: I disclaim all combinations of shoes and rubbers for breaking upon both rail and wheels when such combinations are designed and arranged to act either simultaneously or first upon the rail. I also disclaim all shoes acting rigidly upon the rail as forming no part of my combination. I further disclaim the use of cams in applying brake rubbers.

But I *claim* the loosely hung rubbers and spring-bottomed shoe, connected as described in combination with the tri-branched cam, when the lower toe of the cam acts upon the spring and the said parts are all relatively so arranged that the rubbers are applied to the wheels prior to the application of the shoe to the rail, substantially as and for the purposes set forth.

No. 19,260.—NATHANIEL POTTER, of Hillsdale, Mich.—*Improvement in Railroad Car Brakes*.—Patent dated February 2, 1858.—The nature of this improvement is, that by using the balls *l m* either brake wheel may be actuated separately irrespective of the other, while the balls do not interfere with the free use of both brake-wheels together if desired.

Claim.—The combination of the balls *l m* and stops *h i* with chains H I and "oscillator" F, arranged and operating substantially in the manner and for the purpose specified.

No. 19,599.—STEPHEN M. WHIPPLE, of North Adams, Mass.—*Improvement in Railroad Car Brakes*.—Patent dated March 9, 1858.—This invention consists in a combination of two quadrant levers T T and two horizontal levers B B with each other and with the brake-bars of the track, and also with the operating connecting through the fulcrums D D and sliding centre E for the transfer of any and all the forces of a moving train from the operating connexion of the brakes.

Claim.—The combination of levers, pulleys, and chains, operated and arranged substantially as described, by which a brakeman on the rear end of the last car of the train is enabled to brake the train.

No. 19,734.—DANIEL H. FEGER, of Cincinnati, Ohio, assignor to Himself and MAHLON M. WOMBAUGH, of said Cincinnati.—*Improvement in Railroad Car Brakes.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement of the friction pulley J concentrically on the front axle D of the truck, and combining the same with the brake EE and with the sliding buffer or pulling bar N by means of the pivoted vertical spring friction block K, pivoted horizontal rising and falling shoulder bar OZZ, and transverse pins P P, said parts being arranged relatively to each other and operating in conjunction, substantially as and for the purposes set forth.

No. 19,917.—GIDEON DORSCH, of Schenectady, N. Y.—*Improvement in Railroad Car Brakes.*—Patent dated April 13, 1858.—This invention consists in combining the ends of the brake levers with an endless chain, by which the levers are operated.

The inventor says: In itself considered, I do not claim the endless chain *b*.

But I *claim* combining the ends of the levers EE with an endless chain *b*, as and for the purposes set forth, when said levers are hung and operated as described.

No. 20,237.—GEORGE W. ZEIGLER, of Tiffin, Ohio.—*Improvement in Railroad Car Brakes.*—Patent dated May 11, 1858.—The nature of this improvement consists in the application of power to the wheels through the rotation of a rod system continuous throughout the train and in so applying the power to this rotary system that the operator may always graduate the applied pressure to the resistance to be overcome.

The inventor says: I *claim* the application of pressure to the rubbers by a longitudinal rotary and under the truck, combined with cams C C', arranged and operating substantially as described.

I also claim, in combination with the rods and cams of the several cars, as described, the universal joint coupling H, constructed and operating substantially as specified, to connect the aforesaid rods throughout the train.

I further claim transmitting the power to rotate the rods through a spring indicating apparatus, substantially as and for the purpose specified.

No. 20,339.—CHRISTIAN H. EISENBRANDT, of Baltimore, Md.—*Improvement in Railroad Car Brakes.*—Patent dated May 25, 1858.—The nature of this improvement consists in constructing a car brake wherein can be applied the principle of screw and lever directly to the axles of the car wheels.

The inventor says: Being well aware that rubber devices and friction rollers have been applied to the partial surface of axles, I do not claim such devices.

But I *claim* the manner or mode of direct application to the axles of the wheels, of the lever, and screw L m m d² b², with the clasp

boxes *ff*, gripping collars *yz*, and the pivot and socket axles *gh*, the pendant bearings *ccc*, with the box seats *eee*, the connecting yoke eye rods *c² d² o o*, the ear guides *XX*, the whole arranged, combined and operating with the other devices described, and substantially in the manner set forth.

No. 20,429.—THOMAS HOPPER, of Newark, N. J.—*Improvement in Railroad Car Brakes*.—Patent dated June 1, 1858.—In the engraving, *n* is a lever connected with the journal and placed at right angles with the arms of the bumper *c*; *e* is a sliding bar placed between the arms of the bumper, and extending from the face of lever *n* to the coupling-link; lever *n* rests against the sliding bar *e* by means of a spring *m*. The operation is to hold the sliding bar *e* against the coupling-link as the cars separate or close together; lever *n* acts in connexion by the link and bumper.

The inventor says: I *claim* lever *n*, sliding bar *e*, eccentric wheel *S*, connected with lever *n* by means of a shaft and two universal joints, operated upon as specified.

I also claim brake rods *bb*, connected from *b* to *b* by reversible fulcra transverse lever *t* attached to fulcrum 1, and operated by means of the main rod *a*, substantially as set forth.

No. 20,468.—G. W. CUMMINGS, of Philadelphia, Pennsylvania, assignor to D. K. JACKMAN and JOSEPH HANNA, of Lock Haven, Pennsylvania.—*Improvement in Railroad Car Brakes*.—Patent dated June 1, 1858.—The rods may be operated upon at any point, and pulled in either direction to throw back the rod *L* out of catch with the dog *p*. The arrangement of the shaft *E*, arm or crank *G*, crank *I*, rods *K*, chain *g*, and windlass attachment *h i k*, constitute the common hand braking mechanism; and to apply this automatic braking arrangement to cars with such common mechanism it is only necessary to put the dog *p* on the buffers, attach the rod *L* and crank *H*, and the apparatus for unshipping the said rod *L*.

The inventor says: I *claim*, first, the combination of the draw-head *c*, dog *p*, pushing rod *L*, crank *H*, shaft *E*, crank *I*, rods *K*, and blocks *F*, when the several parts are arranged to operate as and for the purpose as specified.

Second. The mechanism for throwing lever *L* out of gear, consisting essentially of the rod *D*, chain *N*, and stationary pulley *O*, the whole arranged and operating as set forth.

No. 20,769.—HENRY M. COLLIER, of Binghampton, New York.—*Improvement in Railroad Car Brakes*.—Patent dated June 29, 1858.—The nature of this invention consists in attaching the brake-block or rubber *BB* to an adjustable rock-shaft *R*, which has a movement toward and from the wheel simultaneous with said rubber, and which has a connexion with the car axle or axle box *I* by means of a chain and rod, strap, or some analogous device, so that when the rock-shaft is rotated it winds up, or shortens said connexion, or is otherwise depressed. It also consists in the use of a spring *H* attached near its centre to the rubber, and fastened upon the truck frame *CC*.

Claim.—The arrangement and combination of the rock-shaft R with the spring H and the axle boxes I I, substantially as shown and described.

No. 21,038.—WILBUR B. WAIT, of Portsmouth, New Hampshire.—*Improvement in Railroad Car Brakes.*—Patent dated July 27, 1858.—By this invention, in order to brake up one or more cars of a train, it is only necessary for the engineer or brakeman to raise the shaft I by means of the lever K, so as to draw upon the belt D, and hence all necessary power is acquired from the revolution of the axle E; or in case said belt and power is not needed, the engineer or brakeman may “brake up” one or more cars by simply turning the cog-wheel A by hand, as may be desired.

The inventor says: I do not claim the use of brake-chains and connecting brake-rods, as the same are now generally applied to car brakes.

But I *claim* the combination and arrangement of the frame F, together with the connecting joints Q Q or P P, with latch L attached, the shaft I, with drum C attached, connecting with the shaft A by an eye R¹, the belt D passing round the axle E, the lever K, the levers or arms C, with brake-chains *d*¹ and rods E attached, the guide-bar G and slot O, the main shafts M A and *g*, with cog-wheels attached thereto, and the slots N and eyes or links R and R¹, in the manner substantially as shown in figs. 1 and 2, and as described.

No. 22,213.—ASA L. WHIPPLE, of Elmira, New York.—*Improvement in Railroad Car Brakes.*—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim as my invention the manner of securing the armature G to the shaft C by means of a loose collar and bur.

But I do *claim* them, in combination with the spring, for a new purpose, viz: a mode of carrying the intensity of the connexion of the armature with shaft C, and allowing that connexion to give way when the revisiting force is sufficient to prevent the car wheels revolving and causing them to slide.

I also claim the improved method of communicating the motion of the car wheels to their brakes through the medium of electro-magnetism, consisting substantially of the spring-jaws P P and W W, and of the insulated rings on the axis of the magnet, arranged and operating in combination with the said magnet and adjustable armature, in the manner and for the purposes specified.

No. 22,229.—HENRY E. CHAPMAN, of Albany, New York.—*Improvement in Railroad Car Brakes.*—Patent dated December 7, 1858.—This invention has reference to applying the brakes directly to the rail instead of to the wheels, or between the periphery or tread of the wheel and the rail.

Claim.—The arrangement of the shaft L, having upon it the right and left hand screw threads, the right and left hand nuts K K¹, the rods J J¹, the levers I I¹, the shafts H H¹, the levers G G¹, and the

cross-bar F, in their relation to each other and to the brake, as and for the purposes set forth.

No. 22,455.—JOHN W. RICE, of Springfield, Massachusetts.—*Improvement in Railroad Car Brakes*.—Patent dated December 28, 1858.—This invention is an improvement on car brakes patented by the above named inventor August 3, 1858.

The inventor says: I *claim*, first, the suspension-bar H and crotch-bolt I and nut J, when arranged and operating in the manner substantially as and for the purposes substantially as described.

Second. I claim the continuous rod V and loose pulley K, in combination with the suspension-bar H and crotch-bolt I and nut J, when arranged and operating substantially as and for the purposes set forth.

Third. I claim the loose collars P P on the standards *g*, when applied in the manner and for the purposes substantially as set forth.

No. 20,627.—C. B. COTTER, of Harrisburg, Pa.—*Improvement in Car Couplings*.—Patent dated June 22, 1858.—The claim and engraving will explain the nature of this invention.

Claim.—The peculiar arrangement of coupling bar A, as constructed in combination with the spring jaws *c e*, the lugs *m*, and the right and left screw *g*, for the purpose of making a self-connecting and self-disconnecting car coupler and friction bumper, as is fully described.

No. 21,737.—GEORGE S. BISHOP, of Washington, D. C.—*Improvement in Car Couplings*.—Patent dated October 12, 1858.—This invention relates to constructing the bumper head and pin in such a manner that the coupling will be automatic, and allowing the link to be set at different inclinations to accommodate cars of different height.

The inventor says: I *claim*, first, the loop bolt or pin B, in combination with the slots H and L, and slide block with grooves, as described.

Second. I claim the manner of supporting the loop bolt, by allowing the short arm to rest on the bumper head, as N, instead of resting on a block or ball, whether the slots H and L be separated or connected, when constructed and operated in the manner set forth.

No. 19,021.—JAMES M. CONNEL, of Newark, Ohio.—*Improvement in Railroad Car Couplings*.—Patent dated January 5, 1858.—In the engravings B B¹ are the draw heads of the cars to be connected. The coupling consists of two plates *a a*, held at one extremity of the link *b*, and encased in a cylinder of vulcanized india rubber C. In the inner faces of the plates *a a* are cavities *d d* for the reception of projections *e e* on the tongue *f* of the link L. The plates *a a* are connected by chains *h h* with the platform P. Bolts *i i*¹ pass through the draw heads B B¹ and the links L and *b*, and unite the cars in the same manner as when the ordinary coupling bar is used.

The inventor says: I do not claim embracing a tongue by plates, when said tongue has a longitudinal movement between the plates, as shown in the expired patent of Hunt & Brown.

But I *claim* the plates *a a*, tongue *L*, link *b*, and chains *h h*, in combination with each other and the vulcanized india-rubber casing embracing the plates, when the connexion between plates and tongue is such as to prevent their moving longitudinally upon each other, as set forth.

No. 19,049.—JOHN SCHNEIDER, of Chicago, Ill.—*Improvement in Railroad Car Coupling*.—Patent dated January 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The circular rotating hook bolt, in combination with tumbler and trigger, when so constructed and arranged as to operate substantially in the manner set forth, that is to say, when both the coupling and uncoupling is effected automatically, by lifting the bolt for the passage of the link, either by the direct action of the link against the tumbler, or by the downward pressure upon the trigger, in, and by the act of one of the cars running off the track, respectively, for the purpose specified.

No. 19,186.—GEORGE W. DOOLITTLE, of Richfield Springs, N. Y.—*Improvement in Railroad Car Coupling*.—Patent dated January 26, 1858.—The nature of this invention consists in providing a convenient means for connecting one car with another, and also in providing certain agencies by means of which a car will be self detached on the occurrence of an accident, by means of which it is thrown off the track.

The frame *a b c* is the same as that ordinarily used, its horizontal length and means of attachment to the platform and body of the car are the same as now in use, and may be varied to suit convenience; *d* is the draught bolt which is usually dropped into the link *e* by the use of the hand, as the cars are brought together. Around the bolt is placed the spiral spring *f*, when the cars approach each other for the purpose of being connected, and the link *e* is brought under the bolt; the person attending to the connexion, standing on the platform, places his foot on the end of the bolt and passes it down, the bolt passing through the link *e* and through the lower end of the frame, where it is caught around its neck by the clasp *h*.

The inventor says: I do not claim as new the general form of the buffing frame, as shown and described, nor do I claim the use of the draught link of the plain form as here used, as these are now in common use.

But I *claim* the mode I have for inserting the draught bolt, and catching the link while the operator is standing on the platform, as well as the mode of holding the bolt down by the clasp *h* beneath, while drawing, as is also described.

I also claim the mode of releasing the hold on the draught bolt which I have described, by the self-operating agency of the pin *V*, and the thumb-piece *w*, acting as a self-uncoupler as described, the whole being combined and arranged substantially as set forth.

No. 19,204.—JOHN PEARSON, of Stirling, Iowa.—*Improvement in Railroad Car Coupling*.—Patent dated January 26, 1858.—In opera-
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tion the coupling bolt passes through the extremity *m* of the link. If one of the cars thus connected deviates from the track one of the levers *h* will press against the pins *i*, and the end of the links open so that the coupling bolt may slip out and disconnect the cars.

The inventor says: I do not claim the use of a single spring link as a coupling.

Nor do I claim draught pieces held together by an exterior spring.

But I *claim* the combination link made up of the spring *c*, bent as specified, iron piece *a*, and arms *b b*, connected therewith by interior projecting points, as described, when used in combination with the levers *h*, and pins *i i*, substantially as and for the purpose set forth.

No. 19,794.—JOHN W. RICE, of Springfield, Mass.—*Improvement in Railroad Car Couplings*.—Patent dated March 30, 1858.—The nature of this invention consists in providing a hook link *C* with notches *I I* and *L* on the under side, and a fulcrum drop *D*, which serves to hold the hook link at any desired height, and also to hold the hook line down to keep it from working when the cars are in motion, by means of the notches. It also consists of passing an iron rod *G* through the fulcrum drop, with a handle *h* on each end, and making the rod fast in the drop, by which means the hook can quickly be raised to any desired height, thus uncoupling the cars.

The inventor says: I do not claim the hook link, as that has been used before, but was found defective, as the hook link would work out when the cars were in motion, and hence was abandoned as dangerous and unsafe.

What I *claim* is the fulcrum drop *D*, and notches *l* and *ll*, on the under side of the hook link *C*, and the rod *G*, when used in combination with each other, for the purposes substantially as described.

No. 19,925.—ALBERT HEBBARD, of Galesburgh, Ill.—*Improvement in Railroad Car Couplings*.—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

Claim—The combination of the round or oval ring *A a*, or clevis attached to the hook of the bumper, the same to act as a self-coupling, the latch and the catches, or any other equivalent substantially the same, so as to enable any one to use the bumper and ring as a self-coupling.

No. 20,139.—WILLIAM H. BURRIDGE and NATHAN L. POST, of Cleveland, Ohio.—*Improvement in Railroad Car Couplings*.—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We *claim* making the fulcra of the jaws forward of or more towards the centre of the coupling bar or link than those parts of jaws which catch the head of the link, so that the draught upon the link has a tendency to close the jaws substantially as described.

And in combination with vibrating jaws having their fulcra arranged as described, we claim the peculiar construction of the link bar, substantially as described, by which the said link connects the couplings when the cars are run together, and by which they uncouple

or disconnect themselves when one of the cars is thrown from the track, or the link vibrated beyond a given angle as described.

No. 20,264.—FRANCIS E. GLEASON, of Columbus, Ohio.—*Improvement in Railroad Car Couplings*.—Patent dated May 18, 1858.—When the bar *c* is depressed by pressing upon *C*, it presses upon the spring *D*, the catch *E* and rods *a a* will assume the position shown by the dotted lines in fig 2, and when they take this position the catch *E* falls forward beyond the bar *c*.

Claim.—The arrangement and construction of the catch *E*, with relation to the bar *c*, and this in combination with the foot piece *C*, bars or rods *a a*, spring *D*, and link *B*, all being operated in the manner and for the purpose set forth.

No. 20,392.—ALLEN LAPHAM and DANIEL H. BURNS, of Brooklyn, N. Y.—Assignors to Themselves and CHARLES A. DURGIN, of New York, N. Y.—*Improvement in Railroad Car Couplings*.—Patent dated May 25, 1858.—The object of this invention is to do away with the objection to friction, ice, rust and uncertainty of action which is often found in ordinary car couplings from some of these causes.

The inventors say: We are aware that automatic car couplings have been used, examples of which may be seen in the patents of D. R. Pratt, December 12, 1848, and A. G. Safford, December 11, 1849, and we therefore lay no claim to such.

But we *claim* a tilting hook *C* and lever *D*, acting in combination, constructed substantially as described, whereby the coupling mechanism is rendered automatic and capable of being disconnected instantaneously irrespective of the tension or draught of cars, substantially as set forth and specified.

No. 20,817.—J. H. QUACKENBUSH, of Owasso, Mich.—*Improvement in Railroad Car Couplings*.—Patent dated July 6, 1858.—The pin or bolt *c* which secures the link in the head is attached to a lever *B*, constructed in a peculiar way, so that the pin may be raised and the link released from within the car to which the coupling is directly attached, and the pin also released, and the link released in case the car or its adjoining one be thrown or runs off the track.

The inventor says: I am aware that various forms of self couplings have been devised, and I do not claim separately any of the parts irrespective of their construction, arrangement and relative position as described, whereby the device is not only rendered self-coupling but is also rendered susceptible of being detached from within the cars, and the cars also if thrown from the track made to disconnect themselves.

I *claim* therefore as new, and desire to secure by letters patent, the lever *B*, formed of two bars *c a*, fitted in the head or socket *A*, provided with a pendant *f*, connected with the pin or bolt *C*, and having the chains *D E*, attached to it, the whole being combined and arranged as and for the purpose set forth.

No. 21,486.—JASON W. COREY, of Crawfordsville, Indiana.—*Improvement in Railroad Car-Couplings*.—Patent dated September 14, 1858.—The nature of this invention consists in the arrangement and combination of the hinged coupling hook, slotted connecting link and double inclined plane, whereby, when the preceding car of a train descends into a stream or other dangerous place, it shall instantly by its weight upon the link, cause it to elevate the forward portion of the hook, and thus uncouple itself from the hind cars and avoid pulling said cars along with it, and whereby, also, the automatic uncoupling of the cars, whenever one car on the train runs off the track to the right or left, is accomplished.

The inventor says: I *claim* the arrangement and combination of the hinged coupling hook B *e*, slotted connected link C *d*, and double inclined plane D, substantially as and for the purposes set forth.

No. 21,502.—CHARLES P. KENYON, of Wilson, North Carolina.—*Improvement in Railroad Car-Couplings*.—Patent dated September 24, 1858.—C C are supporting ridges on the top and bottom of the outside of the coupling box A, for the purpose of strengthening it otherwise weakened by the grooves *i i*; *q* is the coupling bolt; *y* the coupling link; *v v* lateral concave grooves in the bottom of the inside of the coupling box, said grooves being on each side of groove *i*; S is the slide working in the coupling box A; *r* the pusher for the purpose of pushing forward the slide in the grooves *i i* in the coupling box; *t* is the fastener for the purpose of retaining the slide and pusher in the coupling box.

The inventor says: I *claim* the combination of the grooves *i i* supporting ridges C C, lateral grooves V V, pusher *s*, and block S, arranged and operating substantially as described.

Second. I claim adjusting the coupling to suit cars with platforms of different heights by means of the slide E, and a bolt passing through the holes F, arranged and operating substantially as described.

No. 21,901.—PHILANDER PERRY, of Troy, New York.—*Improvement in Railroad Car-Coupling*.—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination of the horizontally and vertically moving links *f f* with the parts C D E, which adjust said links *f f* perpendicularly so as to suit different heights of platforms, and with the vertical lever L and horizontal rod R for moving the links apart horizontally, so as to disconnect the cars, and with the sliding spring boxes *a a* which allow the cars to approximate without straining the pins when the cars crowd upon one another, substantially as and for the purposes set forth.

No. 21,356.—WILLIAM PAINTER, of Wilmington, Delaware.—*Improvement in Car-Seats*.—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, jointing the ends of the backs F of the seats to the swinging bars E at points between the centres and corners of the same, and combining and arranging the pins or studs

G on the ends of the backs F, and the pins or studs I on the faces of the arm rests, or on the ends of the backs, in such relation to the bars E and slots H, as to enable them to be suspended in the proper relation to the bottoms A of the seats to form the usual seats, or to be swung and extended to form reclining or sleeping couches, substantially in the manner described.

Second. I also claim the combination of the spring bars or catches c, having studs at their ends and segmental slots D¹ with the swinging seat bottoms, substantially in the manner and for the purposes described.

No. 21,870.—A. C. BLONDYN, of St. Joseph, Mo.—*Improvement in Car Seats*.—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination and arrangement of the swinging frame B, extending and rolling mattress E, the roller D, shaft H, roller H¹, and cord G, or their equivalent for operating said mattress and the sectors N, to which the seat bottoms M are secured, by which a seat facing either end of the car, or a reclining or sleeping couch capable of accommodating the two occupants of the seat can be obtained, the whole being constructed and operated substantially as described.

No. 21,967.—P. P. JOSEFF, of Philadelphia, Pa.—*Improvement in Car Seats*.—Patent dated November 2, 1858.—In the engravings, figure 1 is an end elevation of two seats, the parts of one being arranged in the proper position to accomodate persons in a sitting posture, and the back and extension bottom of the other being arranged in the positions they are made to assume when the seats are converted into sleeping couches.

Claim.—The combination and arrangement of the slotted vertical bar E, having grooved wheels K on its face, cogged plate E, pinions D F¹, radical arm D¹, and wrist pin or stud C, projecting from the end of the movable seat bottom A¹, and jointed crank G, substantially in the manner described.

No. 21,985.—JOHN W. SIBBET, of Cincinnati, Ohio.—*Improvement in Car Seats*.—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Constructing every alternate seat in two distinct parts, and providing the upper detachable portions A¹ with guiding hubs L at their ends, to which are attached straps or bands K for elevating them, horizontal spring bars N, whose ends enter slots J in the guide columns or posts I for sustaining them, in conjunction with the straps or bands K in their elevated portions A¹, and combining with the said upper detachable portions A¹, and the permanent seats A, pieces of cushioned or stuffed cloth Q or other material, capable of being packed in the boxes b of the seats, the whole being constructed, arranged, and operated substantially as described.

No. 19,079.—JACOB S. DENMAN, of Brooklyn, N. Y.—*Improvement in Railroad Car Seats*.—Patent dated January 12, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Attaching the back C at one end to the side B of the seat, by means of the arm E, bar F, with roller K attached, arm G and ratchet H, arranged substantially as shown, and used in connexion with the curved ledge L and pawls I, the opposite end of the back being connected to the side B¹, and properly guided by the arm E¹, roller d and guide N, or their equivalents for the purpose set forth.

No. 19,910.—DAVID BUZZELL, of Charlestown, Mass.—*Improved Railroad Car Seat.*—Patent dated April 13, 1858.—The claim and engraving explains the nature of this invention.

The inventor says: I *claim* an improved railway chair or combination of stationary seat, a reversible back, two swinging foot rests, and mechanism so connecting the said foot rests and the reversible back as to enable the foot rests to be operated by the back, in manner and under circumstances substantially as described.

I, also, claim making the reversible back A in three parts, K l m, arranged and applied together, substantially in the manner and so as to operate as specified.

I, also, claim the application of the springs to the head rests, in the manner set forth, such head rests being provided with latches, or their equivalents as specified.

No. 20,654.—JOHN MILLAR, of Paterson, New Jersey.—*Improved Railroad Car Seat.*—Patent dated June 22, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I am aware that car seats have been arranged to turn horizontally; but I am not aware that the two seats of each base or stand have been made separately or detached, and so connected to the base or stand that they may be turned independently of each other.

Neither am I aware that the fastening or catch, arranged as shown, has been used in connexion with a pivoted back. I do not claim broadly, therefore, the horizontal rotating movement of a car seat, for the purpose of adjusting the same to face in either direction.

But I *claim* the two horizontal rotating seats B B attached to the face or stand A as shown, in combination with the pivoted backs d attached to the seats B and arranged with the bars C, having the rods D and springs F attached, and the pins h connected with the upright parts c of the seat, the whole being arranged substantially as described.

No. 21,052.—JOHN MCMURTRY, of Fayette county, Kentucky, assignor to JAMES B. CLOW and JOHN BEST, of Fayette county, aforesaid.—*Improvement in Railroad Car Seats.*—Patent dated July 27, 1858.—The nature of this invention consists in making the seats in cars, &c. adjustable for night travel so as to form a comfortable berth at night and at the same time be readily adjusted for travel by day.

The inventor says: I do not claim the quadrants d d and P P, with their thumb-screws separately. Neither do I claim the mode of hingeing the seats B and f together, as these devices are not new.

But I *claim* the combination and arrangement of the seat back, footboard, and quadrants, for the purpose of making the seat adjustable and reversible at pleasure, substantially as described, and for the purposes set forth.

No. 21,178.—JAMES M. BAIRD, of Wheeling, Virginia.—*Improvement in Railroad Car Seats*.—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the oscillating pedestal B and the vertical lever-stay L, in combination with the stationary seat-stand D and the arrangement of the slats in each, by which to adjust the seat to any position required with the wheel *k*, and also the arrangement by which the backs are changed and held permanently to their places by the arm-catch *h* and *g* and drop-catch marked B.

Second. I claim the arrangement of the oscillating foot-brace, in combination with a lady's foot-stool, as seen in fig. 3.

Third. I claim the arrangement of the spittoon-holder, as seen at fig. 4, for the purposes described.

No. 21,352.—C. M. MANN, of Detroit, Michigan.—*Improvement in Railroad Car Seats*.—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the two car seats, constructed as stated, substantially so that they may be turned from the ordinary form of seats, one to the right the other to the left, one-fourth round, bringing the ends next the windows to meet together, and the backs or hinges may be turned over and fall upon the ledge upon which the ends before rested, and are held firmly in place as a bed by the pin *c*.

I also claim the bed formed as above claimed, in combination with the door *h* and pillow, which, being on hinges, opens into place upon the bed for use, or may be instantly shut out of the way and out of sight at pleasure.

I also claim the columns B, each containing and concealing two counter weights, in combination with the upper and lower movable beds, as described, and for the purposes mentioned only.

I also claim the general device as set forth, combining the upper and lower beds and seats with the legs and columns and counter weights, all convertible as set forth, either into beds or seats, for four, at pleasure, so that all, or a part of them, may sit up or lie down in the space occupied by four persons.

No. 21,326.—JOHN C. DE WITT, of West Bloomfield, N. J.—*Improvement in Railroad Car Seats*.—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Sustaining the bottoms D of the car seats on the slotted corners of the oscillating cradles A, capable of being turned on horizontal transverse shafts B, and combining and arranging therewith slotted bars G, connected at their upper ends to the backs I of the seats by bars H, and oscillating levers K, and movable trucks L, with tilting platforms O, in such a manner as to enable the seats to be sustained and secured in the proper position to accommodate the pas-

sengers in a sitting posture, or their bottoms D, and backs I, to be brought to the proper angle of inclination with the tilting platforms O, and in relation to each other to form sleeping and reclining couches or berths, substantially as set forth.

No. 21,727.—DRAPER STONE, of Milwaukie, Wisconsin, assignor to Himself and E. T. TURNER, of Grafton, Wisconsin.—*Improvement in Railroad Cars*.—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, providing the back frame D, of the high back seats with hinged cushioned frames F F¹, at different or the same points of elevation, and jointing the front ones F of them to horizontal bars E E¹, secured to the back frame D and attaching and combining therewith bracing or supporting bars Z, and slotted bars J, in which their curved ends move, in such a manner as to enable the said cushioned back frames F F¹ to be folded together with the back frame D between them to form comfortable and distinct reversible seats, as represented in figure 3, or raised and extended to the high back seat frame next in advance to form sleeping berths or couches on different horizontal planes, as represented in figures 1 and 2, as described.

Second. I also claim the combination and arrangement of the double hinged cushioned back frames L L¹, of the low back seats, with and in the relation to the double hinged cushioned bottoms N N¹, curved bars K, and spring notched bars M, attached thereto, and horizontal ledges or ribs I on the sides of the uprights A of the frame, substantially in the manner and for the purpose set forth.

Third. I also claim giving a greater elevation to the hinged cushioned double back and bottoms N², of the low back seats, by combining therewith the pins or studs on the edges of the former lugs or projections in which they rest, and rock shaft P, and bars or arms o, attached thereto, and spring notch bars Q, and lugs or projections in which they rest, and rock shaft P, and bars or arms o, attached thereto, and spring notch bars Q, and lugs or projections R, on the high back seat frame next in advance, the whole of these parts being operated and arranged as described.

No. 22,471.—GEORGE L. DULANEY, of Mount Jackson, Va., assignor to Himself and SOLOMON K. MOORE, of said Mount Jackson.—*Improvement in Railroad Car Seats*.—Patent dated December 28, 1858.—The frame A of each seat consists of two end uprights which serve as arm rests for the passengers, connected together by a platform A¹, on the edge of which is secured a right angled rib, extending, like it, from one upright to the other, and being bevelled on the upper edge. To the horizontal platform A¹ is attached, by bars B, the seat bottom C, which consists of a horizontal frame work or plank having a cushion upon its upper surface, and bevelled on one of its edges to correspond with the bevelled edge of the right angled rib upon which it rests, and having a right angled rib r secured to its opposite edge, which rests on the edge of the horizontal platform when the bottom is brought to the position to form a seat.

Claim.---The combination and arrangement of the movable seat bottoms C, hinged folding cushions G, sliding slat blind frames H¹, and hinged cushioned frames I, and cushioned flaps K L on the backs E of the seats, and slides or panels M.

No. 20,622.---SIDNEY C. CASE, of Detroit, Mich.---*Improvement in Railroad Car Seats and Berths.*---Patent dated June 22, 1858.

The inventor says: I am aware that chairs have been constructed with hinged seats and backs, for the purpose of enabling them to be folded together to occupy less space when not being used, and, therefore, do not lay claim to the particular device for accomplishing this object.

But I *claim*, first, extending the backs A of the seats nearly to the floor of the car, and suspending said backs on pivots or centres a short distance above the lower ends, and providing the seat portions C with pins c near their vibrating edges, which enter and rest in corresponding mortises formed in the sides of the car, and partitions forming the ends of the seats, substantially as described.

Second. I also claim the peculiar method of connecting the berth platform E E together and raising them out of the way to the roof of the car, when not desired to be used, and lowering them to form berths by means of segmental grooves H H¹ H² H³ formed in or secured to the transverse partitions D, and round and oblong pins or studs G G on the ends of the platforms E F which traverse in them; the said grooves being so formed and in such relation to each other as to enable the berth platforms to be rolled upward, connected, and tilted, and suspended near the roof of the car, and detached and lowered as occasion may require, substantially in the manner and for the purpose set forth.

No. 21, 251.---J. N. FORRESTER, of Fairfax Court House, Va.---*Improvement in Car Seats and Couches.*---Patent dated August 24, 1858.---The nature of this invention consists in combining with car seats, which have an adjustable bottom and back, an auxiliary back and bottom which are adjustable; said auxiliary back and bottom being arranged below the bottom and back of the main seat.

Claim.---First, combining with car seats D C an auxiliary back and bottom which are adjustable, said auxiliary back and bottom C¹ D¹ being arranged and operating substantially as and for the purposes set forth.

Second. The ratchet teeth B B¹ and spring palls F F, combined and arranged in the manner and for the purposes set forth.

No. 21,331.---K. FREEMAN, of Fond Du Lac, Wis.---*Improvement in Car Seats and Couches.*---Patent dated August 31, 1858.---The claim and engravings explain the nature of this invention.

Claim.---Making one of the ends of car seats detachable, and the seats on one side of the car so that they can be brought in direct contact with those immediately opposite, in the manner described, so as to transfer the longitudinal passage way from the center to one side of the car, and in combining with the said car seats a series of bars

E F L, and rods G, G¹ G² G³, capable of being folded together and contained within the lower parts of the seats, or raised and elongated so as to form supports for horizontal single sleeping berths or couches A¹ A² A³ A⁴, placed one above the other at suitable distances apart, the whole being constructed and operated substantially as set forth.

No. 21,412.—R. E. FOWLER, of Clayton, New York.—*Improvement in Car Seats and Couches*.—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination of a numbering machine B, and pawl F or its equivalent, with a printing press, for the purposes and substantially as set forth.

I also claim the adjustable plate E in combination with the numbering machine B, for the purposes and substantially as described.

No. 21,536.—ALEXANDER M. HOLMES, of Eaton, New York, assignor to Himself and ALBERT G. PURDY, of said Eaton.—*Improvement in Car Seats and Couches*.—Patent dated September 14, 1858.—The nature of this invention consists in providing a couch so fitted and adjusted to a car seat as will enable the passenger to recline or lie down for the purpose of repose when travelling.

A, B, C, D, is the ordinary car seat; E, F, G, H, is the movable seat or bench when drawn out; I, J, is the back; K, L, is the upright lever; K, M, is the upper arm; L, N, the lower arm; O, P, Q, is the semicircle; R, S, the wheels; T are the catches or dogs to hold the seat in its proper place.

Claim.—The combination and arrangement of the specific devices set forth, substantially as described for the purposes indicated.

No. 22,283.—G. W. FAIRFIELD, of Holyoke, Massachusetts.—*Improvement in Car Seats and Couches*.—Patent dated December 14, 1858.—This invention consists in constructing the backs of seats of a series of slats, which are placed parallel to each other in a horizontal direction longitudinally across the backs, being attached to the cloth which covers the same, so that the backs slide easily up and down in curved grooves of such a shape that when the seats are arranged for persons in a sitting position, the backs may be brought to face either way, and that the same may be arranged in a horizontal position in which they are supported on one side by a groove in one of the beams, which extends in a longitudinal direction from one end of the car to the other, and on either side by a similar groove in a corresponding beam which slides up and down in suitable guides at the outside of the seats, so that it may be brought to the suitable height when the seats are to be arranged for sleeping couches while it is pushed up and fastened close under the roof of the car when not needed; and at the same time the seats are so constructed that they may be unfolded.

Claim.—The combination of the flexible backs with the curved grooves F and d, and the sliding beam G, so that the backs may be brought into a horizontal position, substantially as specified.

No. 22,338.—HORACE L. ARNOLD, of Elkhorn, Wis.—*Improvement in Car Seats and Couches*.—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, jointing the ends of the seats next the sides of the car to a stud or bolt B, so as to enable them to be arranged to right angles to the sides of the car, or to be swung round or turned to a diagonal position, and to thus occupy the spaces between them longitudinally and increase the width of the passage-way, and thus admit of their elongation to convert them into distinct sleeping berths or couches, as set forth.

Second. I claim the combination of the slotted bar F¹, eccentric lever clamp H, and plates I K, with lips or raised edges for firmly fastening the seats in the required position to answer their designs, as described.

Third. I also claim the combination of the slides O, or their equivalents, and the T-shaped bars M M¹ for sustaining the backs N of the seats in an inverted position and bolts or slides s for securing the backs in their said inverted position, as described.

No. 22,462.—NATHAN THOMPSON, jr., of Brooklyn, N. Y.—*Improvement in Railroad Car Seats and Couches*.—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of longitudinal seats with a raised platform and berths or reclining places beneath the seats and platform, substantially in the manner described.

Second. In combination with berths or reclining places beneath a seat, and a raised platform serving as a foot-stool to such seat, I claim a back to the seat capable of being moved, or of change of place, substantially as specified, so that it may serve at will as a back, or as a couch above the main seat.

Third. I claim making the top of the platform, or foot-place pertaining to the main tier of seats, movable, substantially in the manner and for the purposes specified.

Fourth. I claim arranging within a railroad car longitudinal couches along or upon the floor, and other couches or seats above these with backs which may be converted into couches and passage-ways, or a passage-way from which free access may be had to all the seats and couches, the arrangement of the whole being substantially in the manner described.

Fifth. I claim combining with longitudinal passage-ways, or a longitudinal passage-way, longitudinal seats, when these seats have backs so constructed, substantially as specified, that they may be converted into couches, or, when these seats are free, to slide transversely, substantially in the manner described, the combination as a whole being as set forth.

Sixth. I claim adjustable or movable end seats, substantially such as described, and serving, if necessary, as steps in combination with longitudinal car seats having backs capable of conversion into couches, substantially in the manner specified.

No. 21,952.—PERRY G. GARDINER, of New York, N. Y.—*Improvement in Car Springs*.—Patent dated November 2, 1858.—This spring is constructed of an oblong plate of steel, as shown in figure 1, of uniform thickness from end to end, and of uniform width, except that at the ends on opposite sides, a very acute angular piece is cut from the plate, as shown at *a a*, so that when the plate is coiled into a spring the top and base will be in horizontal planes parallel to each other; this gives the spring at top and bottom an even bearing all round.

The inventor says: I *claim* as my invention the following named improvements and features in the conical coiled steel springs, viz:

First. Its construction out of a plate or bar, as described, not thinned, slotted, or hammered out at the ends, which is to constitute the apex of the spring.

Second. Nicking or compressing the face of the plate, as shown at the line, without breaking or cutting the fiber of the metal, for the purpose described.

No. 22,292.—CHARLES R. HURLBURT, of Seymour, Conn.—*Improvement in Car Springs*.—Patent dated December 14, 1858.—This improvement consists in constructing the spring with a case, in which is placed a series of metal rings and sheet metal disks, one-half or less than one-half of which disks have a raised portion in the centre, so as to give the springs alternately from the centre and the periphery, and with a suitable piston to press upon the rings and disks in the case.

Claim.—The combination of the two kinds of disks, figures 3 and 4, plane, and raised with the rings, figure 5, when the whole is constructed, combined, and arranged substantially as described.

No. 21,624.—SANFORD PEATFIELD, of Ipswich, Mass.—*Improvement in India Rubber Car Springs*.—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The application in the construction of car-springs of the combination knit and rubber fabric specified, in the following manner, to wit: the combination knit and rubber fabric being wound in several layers tightly round a central axis or “former,” or placed flatwise, layer upon layer over the axis or former, and afterwards pressed and acted upon by heat until it becomes a compact or united universally yielding mass, substantially as and for the purposes set forth.

No. 19,767.—PERRY G. GARDINER, of New York, N. Y.—*Improvement in Machine for testing and Measuring the strength of Car Springs*.—Patent dated March 30, 1858.—The nature of this invention will be understood from the claim and engravings.

Claim.—The combination and arrangement of the plunger *G* with the adjustable spindle *N* and adjustable knife-edge pivot *w*, and the guide-plate *Q*, arranged and operating in connexion with the balance beam so as to test the power of the spring and at the same time measure with great facility and rapidity the exact weight or pressure to which the spring has been subjected, the whole being adjustable to any required size or power of spring.

No. 19,219.—HENRY WATERMAN, of Hudson, N. Y.—*Improvement in Railroad Car Springs*.—Patent dated January 26, 1858.—In the engravings *a a* show the leaves that compose the spring; *b* is a bearing piece which is denominated a distributor upon which the spring rests, the distributor being rigid to support the spring and its load at two determined points between the end bearings and its centre; *c* is the axle-box and *d d* are the end bearings.

Claim.—The combination of a series of bars or leaves of steel, as above specified, with the end bearings *d d* and the distributor *b* or their equivalents, substantially in the manner set forth.

No. 19,448.—DAVID B. ROGERS, of Pittsburgh, Pa.—*Improvement in Railroad Car Springs*.—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the so bending of a plate or a number of plates, as to form leaves of such shape that when placed one above the other, the highest and lowest points of one leaf shall be in contact with the lowest and highest points respectively of the next adjacent leaf, as recently patented.

But I *claim*, first, the forming of a spring of a square plate of thin steel by bending the four corners in one direction, or two corners in one direction and the other two in an opposite direction, as described.

Second. I claim the forming of a spring of one piece of thin plate steel, with antagonistic bearings by which is obtained a central equilibrium in or between a succession of squares, as substantially described.

No. 19,435.—STEPHEN MORSE, of Springfield, Mass.—*Improvement in Railroad Car Springs*.—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the combination of the metallic cups *A*. *A* fitting into each other, as described, filled with pieces or parts of India-rubber which has been used and in a measure worn out, when mixed with sponge, cork, or cotton, or any other substance, which, under compression, will prevent the India-rubber from solidifying.

I also claim casting one of the cups in the recess of the jaw in order to strengthen it, while at the same time the cup thus cast forms a part of the spring.

No. 20,148.—ANDREW M. DE HART, of Reading, Pa.—*Improvement in Railroad Car Springs*.—Patent dated May 4, 1858.—The nature of this invention consists in the employment of loose horizontal and perpendicular semi-elliptic plate springs *a a a* and *b b* within a box *C*, the ends of the horizontal springs resting against and near the centres of the perpendicular springs, the weight of the car pressing upon the horizontal springs.

Claim.—The combination of the semi-elliptic plate springs *a a a* and *b b* as arranged with the box *C*, press block *D* and connecting rod *E*, substantially in the manner and for the purpose fully set forth.

No. 20,998.—JOHN J. FIELDS, of Brooklyn, N. Y.—*Improvement in Railroad Car Springs*.—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: Disclaiming the mere application of elastic substances for springs, as well as disclaiming in full the invention, use, or application of perforated concave devices or forms, described and claimed by Fowler M. Ray, and by him designated as "frustums of hollow cones" with central rod.

I *claim* the cup or receptacle *a a a a* formed with the larger cavity *b b b*, the swell or ledge *c c c*, the sloping or conical cavity *d d d e e e*, the elastic hollow cone or sheath *f f g g*, the inverted cone plunger or core part *h h i i*, through all of which the whole elastic principle or property of the material or substance used is brought into requisition, and the pressure or weight applied is equalized or diffused throughout the substance employed, substantially as set forth and described.

No. 21,603.—PERRY G. GARDINER, of New York, N. Y.—*Improvement in Tempering Steel Car Springs*.—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, 1st. The subjecting the oil or fluid divided into small streams or showers to the contact of a blast of cold air while falling, by means of the cylindrical chambers or compartments, and the cylindrical air chamber operating as described, or in any manner substantially the same.

2d. I claim the construction arrangement and combination of the cylindrical chamber G, the cylindrical chamber H for distributing the air, and the desk and perforations as described.

3d. I claim the arrangement and combination of the tanks A B and the coils of tubes or worms, the chambers G H and their connexions operating together so as that at the same moment the oil or fluid is subjected to the cooling by both air and water as described.

No. 19,763.—WILLIAM B. FAHENSTOCK, of Lancaster, Pa.—*Improvement in Car Wheels*.—Patent dated March 30, 1858.—The nature of this invention will be understood by the claim and engravings.

The inventor says: I *claim*, 1st. The wheel with the hub outside of the tread or rim and the bearing on the axle within the tread or rim, or at the balancing point.

2d. I also claim the combination of the independent wheel, bearing K and pivot M with the short axle, for the purpose of preventing the sliding and friction of the wheels on or against the rail.

No. 20,583.—JOHN PUGH, of Franklin, Tenn.—*Improvement in Car Wheels*.—Patent dated June 15, 1858.—This invention consists in employing solid wrought iron spokes A, surrounded by and enclosed within hollow wrought iron spokes B of a shorter length, in such a manner as to enable the outer segments or rim of the wheel and the inner sections of the inner portion of the same, to be cast around the ends of said spokes, and to shrink in cooling independent of each other, and the hub to be subsequently cast within and around the inner ends of the spokes after the rim has been cast.

Claim.—The employment of the hollow or tubular spoke B, combined with the solid spoke A, for the purpose of respectively receiving the strain arising from the unequal contraction in cooling of the dif-

ferent volumes of metal in the inner and outer sections E D or portions of the rim independent of each other, in the manner described.

No. 21,614.—HIRAM W. MOORE, of Jersey City, New Jersey.—*Improvement in Cast-Iron Car Wheels*.—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The cast-iron wheel as described, the hub of which is made of an inner and outer straight cylinder F and E, joined together by concentric plates at their ends and an intermediate plate H between, for imparting great strength and durability to the wheel; and in combining and uniting such hubs to the rim or tread by straight plate A radiating therefrom between the end of the hub and intermediate disk H, or connexion otherwise formed, in order that every portion of the wheel may be of a uniform thickness to cool even, be durable and cheaply constructed, and to render hooping of the hub unnecessary, essentially in the manner fully set forth and described.

No. 20,924.—ROBERT POOLE, of Baltimore, Maryland, assignor to Himself and GERMAN H. HUNT, of Baltimore aforesaid.—*Improvement in Cooling Car Wheels*.—Patent dated July 13, 1858.—This invention consists in a process for regularly or equably cooling car wheels in the flasks in which they are cast, so that all strain within itself shall be avoided, annealing dispensed with, and the web of the wheel need not be corrugated or curved to compensate for unequal contraction.

Claim.—The described process of regularly cooling car wheels, whereby all strain within the wheel is avoided, the chill uninjured, and the web of the wheel is without curve or corrugation, substantially as described.

No. 19,380.—STEPHEN E. PARRISH, of Nashville, Tennessee.—*Improvement in Railroad Car Wheels*.—Patent dated February 16, 1858.—The claim and engravings will explain the nature of this improvement.

The inventor says: I *claim* a car wheel made substantially as shown and described, viz: the hub and rim connected by means of two plates having corresponding radial corrugations, said plates being cast with the hub and rim, and their several corrugations being united together so as to form a series of radial chambers within the wheel, as and for the purposes set forth.

No. 19,445.—SEYMOUR ROGERS, of Pittsburgh, Pennsylvania.—*Improvement in Railroad Car Wheels*.—Patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* so constructing a railroad car wheel that the rim thereof may revolve independent of the hub, when required, substantially as and for the purpose set forth.

I further claim inserting a spring or springs therein, substantially as and for the purposes described.

No. 19,776.—WILLIAM W. HUBBELL, of Philadelphia, Pennsylvania, and RICHARD HENRY HUBBELL, of Delaware county, Pennsylvania.—*Improvement in Railroad Car Wheels*.—Patent dated March 30, 1858. *a* is the rim or thread, *b* is the running flange, *c* is the circular vertical flange to the rim fitting tightly against the vertical circular flange *d* of the centre plate, and bearing on the same against the faces *j l m*, secured firmly thereto by the wrought iron rivets *e e* fastened when red hot, so that they shall adapt themselves in this state to the holes. *f* is the central plate, extending from the solid hub cast therewith, and forming on its outer face a vertical flange with enlarged horizontal bearing surface *j* sustaining the rim; the hub, plate, and enlarged face is strengthened by the radial ribs *g* between the rivets; *h* is the hub and *i* the centre of the wheel.

The inventors say: We claim the circular vertical flanges of the rim and plate cast separately, turned off smooth and fitted together, substantially as described.

Also, the central plate strengthened with ribs and made thicker around its water-edge where it is secured to the rim in combination with the vertical flanges on the rim and plate, substantially as described.

No. 19,810.—HENRY C. BULKLEY, of Springfield, Mass.; assignor to JAMES M. ROSS, of said Springfield.—*Improvement in Railroad Car Wheels*.—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I claim, first, my mode of constructing the hub, viz: by reducing the iron around the outer periphery of the hub and give the requisite strength, I substitute a flange or ring on the end of the hub *F* when used in combination with a railroad car wheel of one or more plates, for the purpose substantially as described.

Second. I claim increasing the thickness of the disk as it recedes from the hub to the tread of the wheel, in the manner and for the purposes described.

No. 22,049.—THOMAS C. BALL, of Keene, New Hampshire, assignor to Himself, L. BISCO, A. S. DAVIS, K. CROSSFIELD, EDWARD EDWARDS, and JACOB GREEN, of said Keene.—*Improvement in Railroad Car Wheels*.—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The inventor says: (For a car wheel with an insertion of rubber or other elastic substances between the two parts,) the making of the rim or tire and its flanch *M* in one piece, for the purpose of strengthening each other.

Second. I claim the mode of confining the two parts, *A* and *B*, together by means of the hook or pivot bolts, substantially as described, or their equivalents, to prevent the wear and chafing of any stationary confinement; also to be at liberty to make each bolt do its share of labor assigned, for castings are almost invariably too uneven to get any equality of confinement in other modes.

No. 20,004.—LEA PUSEY, of Philadelphia, Pa.—*Improvement in Securing Tires to Railroad Car Wheels*.—Patent dated April 20, 1858.

The nature of this improvement consists in securing chilled tires to the centres of locomotive and car wheels by means of two rings, one of the rings being formed so as to present a series of openings around its circumference admitting corresponding parts of the tire to pass through them, thereby dispensing with the necessity of removing either ring in taking off worn out and replacing new tire.

The inventor says: I do not claim constructing locomotives and car wheels with plates or rings riveted to centres and tires, as these have been previously used.

But I *claim* the slotted ring *b* forming a series of openings to admit corresponding parts of the tire *c*, passing through said openings for the purpose specified and set forth.

No. 20,610.—WEBSTER WILLOUGHBY, of Markwell, Mississippi, assignor to W. H. WIZEMAN, of said Markwell.—*Improvement in Car Wheels, &c.*—Patent dated June 15, 1858.—This invention consists in suspending and supporting the axle on which the weight of railroad cars and other vehicles rest, by means of slotted bars *A* attached to the main body or tread portion of the wheels, and securing an additional wheel *H* to the axle for steadying the same laterally, in such a manner as to enable the axles to oscillate to either of the centres of said tread portion, and to be slightly in advance of, and eccentric with, the same during the forward progress of the car, or other vehicle supported by the same.

Claim.—The combination of the slotted bars or spokes *A*, and oscillating hub *E*, and disk *B*, for suspending the axle of the wheel in advance of the centre of the tread portion of the wheel with the additional disk or wheel *H*, for keeping the tread portion of the wheel and disk *B* in a vertical position during its revolution, as described.

No. 21,391.—D. B. WRIGHT and L. SAWYER, of South Amesbury, Mass.—*Improvement in Attaching the Props of Carriage Bows.*—Patent dated August 31, 1858.—*C* represents the prop, which is of the usual form, with the exception of a screw *b*, is formed at its inner end; also a shoulder *c*, the latter being somewhat larger in diameter than the screw *b*. The screw *b* is then screwed into the nut *a*, and the prop is secured to the bow.

Claim.—As an improved article of manufacture, a carriage prop in which the prop *C* is rendered independent of its plate *B*, substantially as and for the purposes set forth.

No. 20,412.—GEORGE L. DICKSON, of Carbondale, Pennsylvania.—*Improvement in Carriage Brake.*—Patent dated June 1, 1858.—This invention consists in having the draught poles and shafts of vehicles so arranged that a certain degree of longitudinal play or movement is allowed them, the back ends of the poles or shafts being attached to levers *F*, which have shoes *G* at their ends, the parts being so arranged that the shoes are pressed against the wheels as the speed of the horses is checked, or as the horses are “backed,” and the brake thereby rendered self-acting.

Claim.—The arrangement as shown and described by the tongue E, slotted levers F, frame C, box D, and link H, for the purposes set forth.

No. 21,353.—WILLIAM P. MCKINSTRY, of New York, N. Y.—*Improvement in Children's Carriages.*—Patent dated August 31, 1858.—The handles, or draught bars A A², are attached to a roller c c, which runs transversely under the running gear, or connecting bars D D, to which it, the roller, is secured by means of two bands that serve as boxes for the roller to turn in when operated by the draught bars. B also is a draught bar, and serves to brace A A².

Claim.—The use of three draught bars or handles A A² and B, attached to a child's carriage, and operated substantially as described and shown in the drawings.

No. 22,300.—GILBERT MAYNARD, of Greenfield, Massachusetts.—*Improvement in Children's Carriages.*—Patent dated December 14, 1858.—This invention relates to an improvement in a mode of forming the springs of children's chaises, which was patented by the above named inventor July 7, 1858, in which the springs and bearings of the wheels were formed of a single rod, bent in proper shape. The present invention is designed to render springs constructed on the above named plan without adding materially to the cost of construction.

Claim.—Connecting the axle C with the tongue N by means of the peculiarly formed rods B, which also serve as springs for the vehicle, as shown and described.

No. 21,449.—ISAAC S. SCHUYLER and LUCIUS A. ROCKWELL, of New York, N. Y.—*Improvement in Hose Carriage.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim*, first, the arrangement and combination of two separate and independent rope reels respectively and separately with the bearing wheels rotating on the axle-tree to which the reels are secured, substantially as described and for the purposes set forth.

Second. The described method of connecting and disconnecting the rope reels with the bearing wheels of a fire-engine, hose-cart, or other fire apparatus, for the purpose of taking in the drag-rope while the apparatus is drawn by it.

No. 22,304.—HENRY H. POTTER, of Carthage, New York.—*Improvement in Adjustable Carriage Seats.*—Patent dated December 14, 1858.—This invention consists in having the seat of a vehicle secured to its body in such a manner that the seat may be turned obliquely with the body either to the right or left, and thereby afford greater facility than usual in getting in and out of vehicles, and also by a proper adjustment of the seat sheltering the occupants from the sun or from storms.

Claim.—Attaching the seat B to the body A of the vehicle substan-

tially as shown, or in any equivalent way, so as to admit of the seat being turned obliquely with the body, either to the right or left, for the purpose set forth.

No. 21,420.—AMOS K. HOFFMEIER, of Lancaster, Penn.—*Improvement in Convertible Carriage Shafts*.—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the pole hook with its eyes Q and points R as they fit into the front ends of the shafts which form the pole.

I also claim the arrangement and combination of the shafts, operating on joints, that when closed together form the pole, substantially as described.

No. 19,396.—THOMAS WINANS, of Baltimore, Maryland.—*Improvement in Carriage Spring Guard*.—Patent dated February 16, 1858.—This invention consists in placing a strap of leather or a chain, distinct from the spring-plates, under the spring, so that, if the spring would break, the strap would still be strong enough to support the weight upon it and prevent injury or damage.

Claim.—The combination of the spring with a guard, arranged in relation to the spring, the body, and the bolster or axle of the carriage, substantially as set forth.

No. 20,497.—DAVIS M. LANE, of West Philadelphia, Penn.—*Improvement in Carriage Springs*.—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim broadly the combining of wood and steel in the manufacture of springs for vehicles, for this has been previously done.

But I *claim* providing the extremities of the plates A A¹ with sockets *c* to receive the ends of the wooden springs B B¹, as and for the purposes set forth.

No. 20,820.—LUTHER OTWAY RICE, of Berlin, Canada West.—*Improvement in Attaching Carriage Springs*.—Patent dated July 6, 1858.—The nature of this invention consists in placing a scroll-plate divergent with the axle, and supporting the same on the axle near the wheel by means of a device which will sustain the spring two or three inches above the axle, at its point of support near the wheel.

The inventor says: I do not claim either section of the springs described when separately considered. I *claim* placing the scroll-spring A divergent to the axle, and supporting the same on the axle by means of the clip *c* at the end thereof, and the raised double clip D, or equivalent, near the wheel, for the purposes and substantially as described.

No. 19,102.—DANIEL G. ROLLIN, of New York, N. Y.—*Improvement for Equalizing Carriage Springs*.—Patent dated January 12, 1858.—The plate at each end of the after-tree is connected with the

corresponding plate on the bolster above by a pair of toggle jointed bars *i i*, and the toggle joint of each pair of bars is connected by a rod *u* with one extremity of an equalizing lever *s*, which is pivoted to a plate or bracket *d* that is secured to the centre of the axle-tree *F*.

The inventor says: I do not, therefore, limit myself to the precise arrangement and construction set forth.

But I *claim* the equalizing apparatus for equalizing the strain upon the springs of carriages, consisting of toggle joints, connecting-rods, and equalizing lever, or their equivalents, constructed and operating substantially as set forth.

No. 20,268.—SAMUEL H. HARTMAN, of Pittsburg, Pa.—*Improvement in Forming the Heads of Carriage Springs*.—Patent dated May 18, 1858.—The plates cut and bent into a clip *i* are placed on the end of the straight steel bar *K*. It is then heated and put under the action of the die and counter die of *F* and *G*, which welds the clips to the bar. It is then subjected to the dies and counter dies of *F*¹ and *G*¹, and finally to the dies and counter dies *d d* in the die blocks *J J*¹, as well as those in *F*¹¹ and *G*¹¹.

Claim.—Forming the head or socket on the head plate of a spring, by subjecting them to the action of the dies and counter dies in the die blocks *F F*¹ *F*¹¹, and the levers *G G*¹ *G*¹¹, in the order of their sequence, substantially as represented and described.

No. 22,314.—JOHN W. SIBBET, of Cincinnati, Ohio.—*Improvement in Attaching Carriage Thills to Axles*.—Patent dated December 14, 1858.—This invention consists in having the shanks of hooks, which encompass pins attached to the inner of the thills, pass through sockets attached transversely to clips which encompass the axle. The ends of the shanks of the hooks have screw threads formed on them, on which nuts are fitted, the nuts being attached to ratchets, into which pawls secured into the back side of the clips catch and prevent the casual turning and unscrewing of the nuts.

Claim.—The plate *C* and socket or tube *D*, attached to the clip *B*, in connexion with the pin *G*, attached to the thill *F*, and the hook *H*, provided with a shank *I* and nut *J*, and ratchet *K*, the shank of the hook being fitted in the tube *D*, and the ratchet having a pawl *I* catching into or engaged with it; the whole being arranged substantially as and for the purpose set forth.

No. 19,065.—NEWTON BENEDICT, of Aurelius, N. Y.—*Improvement in Carriage Tops*.—Patent dated January 12, 1858.—To throw back and down the bows it is only necessary to pull upon the rod *T*, disengaging the catch from the detention piece *d*, when the action of the spring *D* rotating the shaft *A* in the direction 1, 2, 3, the hinges *h* allowing the ends of *C*, contained in the loops *N*, to move away from the bow, while the latter lies horizontally, and the loops *N* prevent the top of the bow from tipping too far forward, or swaying from side to side, in the act of passing back and forth.

This invention is further explained by the claim and engravings. The inventor says: I do not claim the extension front *F i i E f f j j*

and *g g*, which part is connected as a sliding part with the dash of the carriage.

But I *claim* the arrangement for operating the carriage bows, as described.

I claim the arms *C*, connected with the main bow and with the shaft *A*, in the manner for the purpose set forth.

I also claim connecting the spring *D* with the carriage body, and causing it to act upon the shaft *A*, in the manner and for the purpose set forth.

I also claim the combination and arrangement of the detention piece *d*, with the catch lever *L* and its spring *S*, whereby the shaft *A* is held at the proper point from rotating, as set forth.

I also claim the combined uses of the hinges *h* and loops *N*, in the manner and for the purpose substantially as set forth.

No. 21,766.—R. W. McCLELLAND, of Pekin, Illinois.—*Improvement in Boxes for Carriage Wheels*.—Patent dated October 12, 1858.—*A* is the hub box. This box is let into and fastened into the hub in the usual manner of fastening such boxes, with the addition, if necessary, of bolts or screws, as seen at *h*. The hub boxes, having a groove *B* and flange *D*, with spindle boxes *C*, properly fitted into them, give a double direct bearing, and thereby reduces the wear.

Claim.---In combination, a hub box, with an interior groove and flange, as represented, the peculiar manner of constructing and placing upon the spindle the spindle boxes or bearings, so as to properly fit into the above described hub boxes, all as represented in the specifications in the manner and for the purposes expressed.

No. 21,083.—NORMAN PLATT, of Jackson, Miss.—*Improvement in Hubs for Carriage Wheels*.—Patent dated August 3, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I know that metallic hubs are not new, nor are clips to secure the spokes, perhaps, a novelty; nor is cast boxing, as such, the subject of a patent, while the peculiar construction and the mode of securing the one I have described may be, still,

I *claim* the combination of a flanged metallic hub *A* for carriage, wagon, and buggy wheels, with clips *e* to stay and strengthen the spokes, together with a metallic boxing for said hub, secured by a swelled head-screw and tap, substantially as described.

No. 19,820.—JAMES M. WHITING, of New Bedford, Mass., assignor to Himself, GEORGE F. WILSON and ALFRED ANTHONY, of Providence county, R. I.—*Improvement in the Hubs of Carriage Wheels*.—Patent dated March 30, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* the making of the hub an elastic compound cylindrico lever, each end of which rests for a fulcrum on vulcanized india rubber or gutta percha, or other elastic substance, in combination with the coupling nut, by which the pressure thereon may be regulated.

I also claim the grooves *z* in the body of the hub, or their equivalent,

and the projections on the outside of the box, or their equivalent, in combination with the said elastic substance.

No. 19,478.—WALDREN BEACH, of Baltimore, Md.—*Improvement in Metallic Carriage Wheels*.—Patent dated March 2, 1858.—The tire or rim iron is first rolled out in the required form. It is then cut in proper lengths and perforated at proper intervals for the reception of the ends of the spokes, and then formed into a hoop and welded, which is the rim. The spokes are then riveted in the rim, care being taken that they shall alternately incline in opposite directions, so that when the hub is cast upon the opposite ends they will brace the rim. The rim and spokes are then placed so that the hub can be cast around the inner end of the spokes.

The inventor says: I do not claim to be the first inventor of any one of these features, nor ask a patent therefor.

But I *claim* the combination and arrangement of the several parts as described, whereby I have made a strong, light, durable, and cheap metallic wheel, which consists of but three essential parts, while I have preserved all the important qualities of a good carriage wheel in the highest degree.

No. 20,586.—SAMUEL J. RUSSELL, of Chicago, Illinois.—*Improvement in Metallic Hubs for Carriage Wheels*.—Patent dated June 15, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* the wedge-shaped projections E and F, when employed in connexion with the spaces *e e* and hooks S S, for receiving the spokes and locking the two parts of the hub firmly together, substantially as set forth.

I also claim the use of india rubber to protect the woody fibre of the spokes, as set forth.

No. 20,869.—NATHANIEL T. EDSON, of New Orleans, La.—*Improvement in Metallic Hub for Carriage Wheels*.—Patent dated July 13, 1858.—G represents a screw bolt with a corresponding thread cut in the axle, which bolt, with the cone shaped collar H, connects the wheel and axle. B represents an oil chamber or cup, which, being filled with oil, furnishes a constant supply to the cone and axle.

The inventor says: I *claim*, first, the cone H, when made and applied in the manner substantially as specified.

Second. The oil chamber 5, in combination with one or more orifices 4, when formed on the outside of the box by means of a nut, substantially as represented.

Third. The combination of the oil cup B with the cone H, for the purposes specified.

Fourth. I claim the chamber 5, substantially as described, in combination with the outer cup B, for the purposes specified.

No. 19,951.—B. A. ROGERS, of Shubuta, Miss.—*Improvement in Tightening Spokes and Felloes of Carriage Wheels*.—Patent dated April 13, 1858.—The nature of this invention consists in the combi-

nation, in a wheel, of an annular chamber, spoke-sockets communicating with said chamber, expanding packing ring, taper axle-box, and extended spokes.

The inventor says: I do not claim having the spokes communicate with the eye of the hub and expanded by a cone box.

But I do *claim* the combination, in a wheel, of the annular chamber E, spoke-sockets G communicating with said chamber, expanding packing ring H, taper axle-box I, and extended spoke B B, substantially as and for the purposes set forth.

No. 19,721.—ROBERT B. SCOTT, of Philadelphia, Pa.—*Improvement in Tightening the Tires of Carriage Wheels*.—Patent dated March 23, 1858.—This invention consists in securing the two ends of a tire together, and binding the whole firmly to the felly of a wheel by means of taper keys D D¹ fitting into slotted lips *a* in one end of the tire, and in a slotted enlargement *d* on the opposite end of the tire; one end being so bent that the other may lap over it, and so secured to the felly by means of a bolt E that the tire may be readily tightened to the wheels.

The inventor says: Disclaiming the exclusive use of taper keys for drawing together the two ends of the tire,

I *claim* the end C, with its slotted lips *a*, and the bent end B, with its slotted enlargement *d*, in combination with the taper keys D and D¹, and bolt E, when the two ends are arranged and adapted to each other, substantially in the manner set forth, and for the purpose specified.

No. 19,264.—FREDERICK O. ROGERS, of Elmira, New York.—*Improved Adjustable Axle-Brace for Carriages*.—Patent dated February 2, 1858.—The lever E is fastened in the standard F by the pivot G and turns upon it as the springs B play, and at the same time the handle of the lever plays through a loop fastened in the lower side of the axle C. The braces D are fastened to the axle and lever with a joint at each end. When the springs are pressed together the braces are gathered or drawn up under the body by the lever just enough to allow the springs to play perpendicularly or at right angles with the body A, and are by means of the lever expanded as the springs expand.

The inventor says: I do not claim, in general terms, the adjustment of a brace to adapt it to the contractions and expansions of a carriage spring by hanging it to a vibrating arm or lever.

But I *claim* the lever E when constructed and arranged and operating in combination with the body A, springs B B, axle C, and braces D D of the carriage, substantially in the manner and for the purpose specified.

No. 21,012.—GILBERT MAYNARD, of Greenfield, Massachusetts.—*Improvement in Hanging Carriages for Children*.—Patent dated July 27, 1858.—By this invention springs of children's chaises and the axles or bearings of the wheels C C, of a single rod B of iron or steel,

bent or curved in a peculiar way so that their construction is simplified.

The inventor says: I am aware that spiral springs have been applied to vehicles and arranged in various ways, both singly and combined with other forms of springs; I therefore do not claim broadly and in the abstract the employment and use of spiral springs in children's vehicles.

But I *claim* forming the springs of the chaise and the axle or bearings of the wheels C of the same, by means of a single rod B bent and applied to the device as shown and described.

No. 19,113.—V. N. MITCHELL, of Concord, North Carolina, assignor to Himself, H. A. AREA, and C. N. WHITE, of Concord, North Carolina.—*Improvement in Attaching Shafts and Poles to Carriages*.—Patent dated January 12, 1858.—Through the outer ends of the bars D and through the inner ends of the shafts E holes are made to receive bolts *d*. These bolts, when the vehicle is used with one horse, pass through holes near the ends of the bar A and secure the shafts firmly to the ends of said bar, and to the centre of bar A a whiffletree F is attached by a bolt *e*.

Claim.—Attaching the shafts E E to the vehicle, substantially as shown, or in any equivalent way, so that said shafts may be turned, moved, or folded towards and from each other and secured in either position, so as to form either shafts or a draught pole or tongue, and the vehicle thereby readily converted from a single to a two horse one and *vice versa*.

No. 19,446.—JAMES RODGERS, of New York, N. Y.—*Improvement in Boxes for Receiving Money in Carriages*.—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim a glass receptacle to receive money to be deposited in a drawer beneath.

But I *claim* the movable glass slide *f* to the receptacle or hopper, kept at the bottom to the fixed glass *c* by spring or other equivalents, and acting in the manner and for the purposes specified.

I also claim connecting the cover *e* of the money receptacle to a bell for the purpose of attracting the driver's attention when money is placed in said receptacle, as specified.

I also claim, in combination with said bell connected to the cover of the money receptacle, the slide *m* and dog 11 to call attention of passengers to the payment of their fares, as specified.

No. 19,676.—ADOLPHUS BRUNS, of Davenport, Iowa.—*Improvement in Securing the Wheels of Carriages*.—Patent dated March 23, 1858.—On the inside of the rim there is a shoulder decreasing the size of the square at that point. This part of the axle projects half an inch beyond the outside of the rim, upon which is shipped the cast iron plate C, said plate being countersunk into the hub, and also fastened with two wood screws *d*. The axle is further secured in the hub by

a wooden wedge *u*, which fills the space between the angle of the axle and the square hole of the hub in which it is placed.

The inventor says: I hereby disclaim being the inventor of wheels with independent axles or of revolving axles running upon friction rollers, they having been heretofore used.

But I *claim* securing the wheels upon the independent revolving axles, in the manner set forth.

No. 21,696.—CHARLES PAGE, of West Meriden, Conn.—*Improvement in Windlass for Moving Cars and Locomotives when without Steam*.—Patent dated October 5, 1858.—This improvement consists in arranging and connecting a windlass, by means of clamps or jaws, to any portion of the rails of railroad tracks, so as to form or afford, by means of cranks, an apparatus or machine for moving locomotives and other cars on railroad tracks without steam.

Claim.—The inventor says: I am aware that the windlass and its gearing is old, and that jaws or clamps to bite on a stationary form have been long used, and that double levers have often been expanded longitudinally by the double joint. I therefore do not claim either of these as such as my invention.

But I claim the combination of the windlass *A* with the jaws *g g* and the levers *i* and *i*, when connected, arranged, and made to produce the result, by the means and in the manner substantially as described.

No. 21,086.—JOHN W. RICE, of Springfield, Mass.—*Improvement in Brakes for Railroad Cars*.—Patent dated August 3, 1858.—The nature of this invention consists in doing away with a multiplicity of levers, pulleys, ratchets, dogs, &c., that are generally used in applying a double action brake from either end of the car to railroad cars by means of a new arrangement or combination of parts.

The inventor says: I claim, first, the nut *H* and screw *I*, and its arrangement when used for braking railroad cars, substantially as described.

Second. I claim my new combination, viz: the bar *NN* extending from one brake to the other, the double fulcrum lever *M*, and the rods *SR* playing through and against the double fulcrum lever *M*, and the arrangement of the chain *J* and pulley *F*, when used in combination with each other, and operating substantially as described.

No. 20,614.—LEVERETT BALL, of Auburn, N. Y.—*Improvement in Preventing Cars from Running Off the Track*.—Patent dated June 22, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The double flange railroad car wheels, with the broad space *A* between the flanges, and the strong flat-edge flange or car wheels *B*, in combination with the iron plate *L*, the guide rail *D*, the clasp *E*, swivel rail *F*, and the ends of the rails *CCCC*, the whole being constructed and arranged substantially as set forth.

No. 21,026.—BLANEY E. SAMPSON, of Boston, Mass.—*Improvement in Coupling for Horse Railing Cars*.—Patent dated July 27, 1858.—This improvement consists in so applying or constructing the car pole B that it shall be sustained at the proper height to couple with the car bunter C, and to be self-coupling at all horizontal angles of presentation to which the pole may be liable.

The inventor says: I am aware that it is not new to make cars self-shackling when brought together, railroad cars often having couplings so applied; and I am also aware that common carriage poles are made without joints. I therefore do not claim making horse cars self-shackling, nor making a pole to a horse car in one piece.

I *claim* the described method of constructing and applying the pole so that it shall be in position to shackle when brought against the platform at any common angle of presentation.

I also claim so applying the pole as described that it shall be supported by the car, instead of upon the horses, as is usually done.

No. 20,675.—JOHN WHITE, of Boston, Massachusetts.—*Improvement in Machine for replacing Railroad Cars on the Track*.—Patent dated June 22, 1858.—The timber A is passed between the two pairs of wheels of the truck, (when it is to be used,) and the carriages B are adjusted with one of them under each side of the frame of the truck. A block of wood is placed beneath the foot of each jack D to prevent its pressing into the ground; the truck is then moved along until the wheels are over the rails, when the jacks are turned in the opposite direction, and the truck is lowered in its proper position on the track.

The inventor says: I am aware that the mechanical devices which I employ have all been previously used for raising or for moving heavy bodies, and also that for the purposes to which my apparatus is applicable machines have been constructed in which some of the features of mine have been used, but without producing a similar apparatus. I therefore do not claim any of the constituent parts of this machine individually or collectively, except when arranged as described.

But I *claim* as a new article of manufacture the described "car replacer," consisting essentially of the beam A, with its two separate and independent carriages B, running on rolls g, with the screw jacks D for raising the beam, the whole constructed and operating in the manner substantially as set forth for the purpose specified.

No. 21,469.—JOHN HARTMAN, jr., of Philadelphia, Pennsylvania, assignor to JOHN HARTMAN, sen., of said Philadelphia.—*Improvement in Couch Seats for Railroad Cars*.—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that car seats have been made before so as to be isolated from each other, and to swivel round upon their bases. I am also aware that the back has been made adjustable to various angles of inclination to a horizontally fixed seat, and also that an office couch chair has been made with a foot rest and back, so connected together and to a fixed horizontal seat as to move in unison to any required angle of inclination to the said horizontally fixed seat,

by the occupant simply changing his position thereon, but neither of these have been constructed in such a manner as that the seat proper can be inclined into the same plane with an inclined foot-rest frame, so as to adapt them as couches to the requirements of a railroad car, as described. I therefore do not claim, broadly, a swiveling seat with an adjustable back and foot rest.

But what I *claim* in adjustable, backed, reversible couch seats, is the combination and arrangement of devices, whereby the seat proper B can, at the pleasure of the operator, be arranged and securely maintained either in the horizontal position of a chair seat as shown in Fig. 1, or in the same plane with the inclined position of the foot-rest frame E as a couch, or as shown in Fig. 2, the same consisting of a pedestal A, seat B, stem *f*, brace *h*, and foot-rest frame E, or their equivalents, combined and arranged so as to operate substantially in the manner described.

No. 21,436.—F. R. MYERS and F. H. FURNISS, of Cleveland, Ohio.—*Improvement in Couches for Railroad Cars*.—Patent dated September 7, 1858.—This invention relates to an arrangement of means for providing such number of couches as, in connexion with such as may be made of the car seats, will accommodate a complement of passengers.

Claim.—The couch P, with the rods L M N O and the collars L¹ M¹, or the adjustable collars and springs R R¹ S S¹, as an arrangement of means for providing such number of couches as, in connexion with such as may be made of the car seats, will accommodate a complement of passengers substantially as set forth.

No. 21,600.—J. B. CREIGHTON, of Tiffin, Ohio.—*Improvement in Couches for Railroad Cars*.—Patent dated September 28, 1858.—The nature of this invention consists in the peculiar arrangement of the folding partitions and couches.

In the engravings A A¹ represent the couches, which are suspended by the stretchers *a a* and *c c*; B B¹ show the partitions at the end of the couches; these partitions are made solid and firm, but are so arranged and secured to the stretchers that they may be folded up with them. The stretchers *c c* are secured to the slotted bars *d d*, which are attached to the ceiling of the car.

Claim.—The combination of the couches A A¹, folding partitions B B¹, stretchers *a a c c*, slotted supports *d d*, and hooks *m n*, and pins *o p*, the whole being arranged, constructed, and operated, in the manner and for the purposes described and set forth.

No. 20,983.—GEORGE S. BISHOP, of Washington, D. C.—*Improvement in Coupling for Railroad Cars*.—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the squared chambered bumper block A, when made to receive the sliding and block C, to overcome the friction on pin D and link B.

Second. I claim the lever E, in combination with the pin D and block C, and bumper head A, and pin or handle L.

Third. I claim the peculiar manner of constructing the mouth of

the bumper, and its connexion with the V-shaped mouth of the block C, for holding the link B, to any desired horizontal angle, and by which the block may be tipped to prevent the link from being crippled, and also for holding the same in poise at any desired angle, the whole operated by lifting the pin D, when constructed and operated in the manner and for the purposes set forth.

No. 21,244.—JESSE CAMPBELL, V. B. LEIGHTHIZER and PATRICK SHANNON, of Steubenville, Ohio.—*Improvement in Coupling for Railroad Cars*.—Patent dated August 24, 1858.—The nature of this invention consists in the peculiar construction and arrangement of the link or coupling head, the jaws and spring that control them, and the chain and hand wheel or their equivalents for opening said jaws to disconnect the link therefrom.

Claim.—The link A made rounding at the point with square offsets on each side in combination with the jaws B B, the spring C, chain D, and hand wheel E, or its equivalent, when constructed, arranged, and operated, in the manner and for the purpose substantially as described.

No. 20,070.—SAMUEL R. JONES, of York, Pa.—*Improvement in Elliptic Cushion for Railroad Cars*.—Patent dated April 27, 1858.—The nature of this invention consists in having an iron frame, the sides of which line the inner surface of the side plates of the car body, on the front of which is placed a semi-elliptic spring, the ends resting on the front of the frame, and the centre resting on an iron shaft, extending to the elliptic springs, or a series of them, which will rest on the bolster of the car body.

The inventor says: I *claim*, first, the local relation and mode of application of the semi-elliptic buffer.

Second. The combination and arrangement of the elliptic cushion, as described, arranged and operating substantially as described and set forth.

No. 20,254.—J. B. CREIGHTON, of Tiffin, Ohio.—*Improvement in Railroad Cars for Day and Night Service*.—Patent dated May 18, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the formation of car beds by means of the stationary seats and reversible backs as now in use, in combination with the slotted supporters A, stops *i*, pins *i*¹, stretchers B, eccentrics U, and reversible hooks *x*, arranged and operated substantially as set forth.

Second. The described method of forming and concealing when not in use in the spaces between the windows and upper tier of beds, as set forth and for the purpose specified, and also the same in combination with the devices constituting the subject of the first claim.

No. 20,021.—CALVIN PEPPER, of Albany, N. Y., assignor to NELSON R. SCOVEL, of said Albany.—*Improved Method of Ventilating Railroad Cars*.—Patent dated April 20, 1858.—The nature of this

invention consists in leading a current of air into the car in such a manner that cinders, dust, or other solid particles contained in said current of air, shall be deposited into a water receptacle, which is termed a pneumometer. In connexion with said pneumometer an apparatus is used for heating and distributing the current of air in winter, and can also apply ice to refrigerate or cool the current of air in summer.

Claim.—The manner specified of purifying the air as it enters the car by passing the same through the pneumometer composed of the tubes *b* and *c* in the water chamber *C* for the purposes and substantially as specified.

No. 20,176.—APOLLOS B. SPENCER, of Rochester, New York.—*Improved Method of Ventilating and Excluding Dust from Railroad Cars.* Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the revolving wet sheet or endless apron (passing through water) for the purpose of cleansing and purifying the air as it passes into the car, which sheet or apron, together with the tank containing the water, and that portion of the bottom whereon it rests.

I claim as a partition, by which I divide the instrument into two complete ventilators, either of which, as set forth, will act as the downward ventilator, while the other always acts simultaneously in the opposite direction.

No. 19,574.—MELVILLE MCGEE, of Jackson, Michigan.—*Improvement in Mode of Operating Brakes of Railroad Cars.*—Patent dated March 9, 1858.—This improvement is for the purpose of giving to the engine driver power to instantly brake up an entire train of cars, bringing the brakes on each car into immediate and simultaneous action at will.

Claim.—The compound adjustable link and pulleys specified, in combination with the device upon the locomotive for operating the brakes, the whole being constructed, arranged, and operated substantially in the manner and for the purposes above described.

No. 21,259.—JAMES INGERSOLL, of Grafton, Ohio.—*Improvement in Running Gear for Railroad Cars.*—Patent dated August 24, 1858.—The nature of this invention consists in so constructing rollers, with long and short axles, that they shall extend down along the sides of the rails of the railroad, and the axles rest upon the rails in such a manner that the rollers will serve as guards or flanges to prevent the train from running off the rails, and the axles produce sufficient traction on the rails to insure the forward propulsion of the locomotive or car when the endless chain is set in motion. It consists, secondly, in the employment of an internally toothed endless chain in contradistinction to a toothless endless chain and an externally toothed driving wheel, which is arranged within the ellipse in which the chain travels, in combination with an endless ellipsoidal guideway and an endless series of rollers running in said guideway, and having their

peripheries or their axles come in contact with the elevated or other rails of a railroad.

Claim.—1st. The manner described of constructing the rollers with long and short axles, so that they shall extend down along the sides of the rails of the railroad, and the axles rest upon said rails, substantially as and for the purposes set forth.

2d. The employment of an externally toothed driving wheel in combination with an endless ellipsoidal guideway and an endless series of rollers, substantially as and for the purposes set forth.

No. 20,293.—H. A. NEWHALL, of Newton, Massachusetts.—*Improvement in Safety Attachment for Railroad Cars.*—Patent dated May 18, 1858.—This invention consists in the employment of supplementary yielding platforms or treads, constructed in a peculiar way and used in connexion with side guards; these parts being so arranged that they may be applied to the cars and afford protection to the passengers while they are passing from one car to another.

The inventor says: I am aware that sliding platforms have been applied to cars, and I do not claim, separately and broadly, such device, irrespective of construction and their connexion with proper side guards.

But I *claim* the supplementary platforms or threads, formed of the rods E fitted in tubes C attached to the platforms, the rods bearing against springs *a* in the tubes, in combination with the side guards formed of the vertical rods F attached to the bars *b* and the chains G, which are connected to the rods F and the railing or guards H of the platforms, the whole being arranged substantially as and for the purposes set forth.

No. 22,364.—PLYMON B. GREEN, of Chicago, Illinois.—*Improvement in Seats and Sleeping Couches for Railroad Cars.*—Patent dated December 21, 1858.—This invention consists in the arrangement under a car seat, having a hinged back and stationary section of cushion, of a sliding drawer E, which has one portion of the top closed or cushioned and the other portion open, in combination with a stationary cushion and back of an opposite seat; also in combination with the above in the arrangement of the upper couches on hinges, in the manner specified.

The inventor says: I *claim*, first, the arrangement under the seat of a sliding drawer E, which has one portion of its top cushioned and the other portion open, in combination with the hinged back or cushion A and stationary cushions D N, substantially as and for the purposes set forth.

Second. In combination with the above arrangement of the upper couches on hinges, in the peculiar manner specified, so that they can be adjusted with facility, substantially as described.

No. 22,025.—D. M. LAWRENCE, of Cincinnati, Ohio.—*Improvement in Sleeping Berths for Railroad Cars.*—Patent dated November 9, 1858.—This invention consists in the application of the ball and socket hinge, or other similar device, to adjustable platforms or sleeping

berths for railroad cars, for the purpose of attaching said platforms or sleeping berths to the side of the car, and at the same time allowing said platform or berth to move up and down; and also in the application of the strap hinge, one end of which is attached to the cornice near the roof and the other to the inner edge of the platform or sleeping berth.

Claim.—The arrangement of the strap hinge *h h* in combination with the ball and socket hinge *b b*, for the purpose of securing adjustable platforms or sleeping berths for railroad cars at any desired elevation, and operating as described, or otherwise substantially the same, and for the purposes set forth.

No. 21,992.—J. DUTTON STEELE and WILLIAM LORENZ, of Pottstown, Pennsylvania.—*Speed Indicator and Recorder for Railroad Cars.*—Patent dated November 2, 1858.—The principle of this improvement consists in attaching to a main shaft, caused to revolve by the motion of the car, or two revolving shafts, one carrying a governor and pencil, and the other carrying or revolving a cylinder, or continuous sheet of paper, with different distances marked upon it by a series of parallel lines indicating distance travelled.

Claim.—The governor shaft and indicator, and the shaft carrying the prepared paper, in combination with the main driver, arranged and operated as described.

No. 20,418.—HEMAN GARDINER, of New York, N. Y.—*Improvement in Springs for Railroad Cars.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: It is not my intention to claim as my invention the forming of a spring out of a fillet or plate folded back and forth, nor the use simply of auxiliary or intermediate springs in detached pieces. I am aware of the use of small springs, as described in the specifications of Holmes and Evans and Clark and Proctor.

I am also aware of the plate described in the specifications of D. B. Rogers, and that of Hill, patented in England.

But I *claim* the arrangement of the peculiar-shaped semi-elliptical springs *B B*, in the form of a square-shaped column, held in position and made to act as one spring by the folded steel plate, so as to give the long leverage and easy soft action, as described, the several springs and folded plate being combined and held together by the bolt passing vertically through them, as set forth.

No. 19,789.—MYRON L. MICKLES and LEWIS L. OLMSTEAD, of Aurora, Illinois.—*Improvement in Ticket-Holders for Railroad Cars.*—Patent dated March 30, 1858.—The nature of this invention will be understood by the claim and engravings.

Claim.—A ticket-holder composed of two chambers or compartments *A B*, into the upper one of which the ticket is placed and exhibited, and thence transferred to the lower one in the act of closing and opening the door of said upper compartment by means of the movable floor and ledge or projection *P*, all operating substantially in the manner and for the purposes specified.

No. 19,331.—T. F. ALLEN, of Dyersville, Iowa.—*Improvement in the mode of connecting the Trucks of Railway Cars.*—Patent dated February 16, 1858.—This improvement consists in connecting the inner corners of the pair of trucks, under a car, with each other, by means of diagonal rods *a a*, or their equivalents, at the same time that the counteracting tension rods *b b* connect the inner end beams *e e* of said trucks with the ring bolts or with the cross beams *k k* of the car body.

The inventor says: I *claim* connecting the trucks of railway cars with each other, and with the bodies of said cars, by means of the diagonal rods *a a* and the auxiliary tension rods *b b*, or the equivalents of said rods, when combined and operating with each other, substantially in the manner and for the purpose set forth.

No. 21,099.—ELI WHEELER, of Elmira, New York.—*Improvement in Sleeping Cars for Railroads.*—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, in connexion with a pair of car seats *B B b b*, which are enclosed within a compartment *A a* and placed at the proper distance apart, pivoting by fixed pivots *m m* the backs *c c* of said pair of seats at such points on the arms of the seat frame *B B b b*, and in such relation to each other that, by turning the backs over in opposite directions in the path of a vertical circle, they will both be brought and made to lie horizontally or on a level with the cushions of the seats within the space existing between the two seats, and upon a supporting cleat *F*, and thus form a comfortable sleeping couch entirely enclosed within the compartment, substantially as and for the purposes set forth.

No. 21,070.—CHARLES L. HARRINGTON, of Buffalo, N. Y.—*Improvement in Sleeping Cars for Railroads.*—Patent dated August 3, 1858.—The engravings and claim give an idea of the nature of this invention.

Claim.—The single rods *v v* in relation to the berths or couches Nos. 1 and 2, the said rods being without collars or projections, and attached at each end to the side of the car, in combination with the shifting seats with slotted arms *A B*, and reversible and convertible backs *a a*, the rail *o*, and bead *t*, with the partitions *s s*, the whole constructed, arranged, and operated in the manner and for the purposes set forth.

No. 20,507.—CHARLES G. PAGE, of Washington, D. C.—*Combined Umbrella and Head Rest.*—Patent dated June 8, 1858.—The rest is a thin piece of metal fastened to the umbrella by bands *b*. When the rest is not needed for use it may be tied anywhere upon the inside of the umbrella. This invention will be further understood by reference to the engravings.

Claim.—Combining a head rest with an umbrella, as set forth.

No. 20,197.—LOVETT EAMES, of Kalamazoo, Mich.—*Improved Hub Machine.*—Patent dated May 11, 1858.—This invention consists in a peculiar means employed for feeding the mortising tool to its work,

whereby the tool may be fed with a variable speed commensurate with its cutting capacity.

Claim.—Operating or giving the feed movement to the carriage B, in which the mortising tool is fitted or placed by means of the horizontal rotating disk K, provided with the ledges *e f*, and having its shaft G stepped in the treadle H, in connexion with the rollers *i h* on the shaft L, which is rotated from the driving shaft F, the parts being arranged as shown, or in an equivalent way, to operate as described.

No. 19,424.—DAVID A. HOPKINS, of Paterson, N. J.—*Improvement in Journal Boxes.*—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that various arrangements and constructions of ledges and flanges, both internal and external, have been used to secure the anti-friction metal in its casing or backing, and that various forms and sizes of bearings have been used, some of which occupy a no greater portion of a circle around the journal than mine. But I am not aware that in any case the ledges for retaining the bearing have been so constructed as to completely surround said bearing, extending to its extreme edge, in such a manner as to secure all parts of its borders from escape, should they be broken.

Neither am I aware that in any case the combined construction of the anti-friction metal and backing has been such as to give a narrow bearing of the anti-friction metal or lining upon the top of the axle, while at the same time a contingent or occasional side bearing was furnished by the backing, as described and shown, or that in any case that side of the backing which is next the axle has been so made as to fit it, and thus allow the bearing metal to be completely worn away, with the exception of the ledges used for keeping it in place.

The particular improvements which I *claim* are, first, providing the housing with a diaphragm, as described, or in manner equivalent, to prevent or nearly destroy the formation of currents of air, caused by the end play of the axle into and out of the housing.

Second. The combination of a boss, or its equivalent, upon the axle, with its location inside of the housing, and the feeding of the oil only to that portion of the axle not between the packing and the boss, as set forth, said boss being formed by turning a recess in the axle, or by any other convenient means.

Third. Combining with the housing a movable stuffing box which surrounds the journal, and may be moved with it, without opening a passage for air or dust into the housing, the parts being combined, arranged, and operating substantially as set forth for the purposes stated.

Fourth. The combination of the backing F with the bearing brass I, when both are constructed and combined substantially as described for the purposes stated.

No. 20,363.—JAMES A. NORRIS, of Philadelphia, Pa.—*Improvement in Journal Boxes.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the glands

D D¹, &c., with a box A, having stuffing boxes formed in each end, substantially as and for the purposes described.

Second. Arranging a packing O between the adjacent sides of the box, as described, whereby the entrance of any dust between said sides is rendered impossible.

No. 19,548.—LEVI DEDERICK, of Albany, N. Y.—*Improvement in the Mode of Tightening and Securing the Keys of the Journal Boxes of Connecting Rods or Pitman*.—Patent dated March 9, 1858.—Springs *h* are applied to the tightening keys of the journal boxes *b b*¹ of connecting rods and pitmen A in such a manner that the said springs will drive up the keys *g* to tighten up the boxes as fast as required by the wear of the boxes and journals, and hold the keys in their places to retain the proper degree of tightness of the boxes.

Claim.—The application of springs to act upon the tightening keys of the journal boxes of connecting rods and pitmen, substantially as and for the purpose specified.

No. 19,471.—ISRAEL S. REEVES, of New Orleans, La., assignor to J. B. SLAWSON, of said New Orleans.—*Improved Omnibus Fare Box*.—Patent dated February 23, 1858.—The parts marked *h* is the frame of the box; *a* the opening in which the fare is put, which falls into the chamber *b*. This chamber has glass sides *i* and *f*, through which the fare can be examined before allowed to pass into the drawer *d* through the opening *e*; *m*, a movable table, which is the base of the chamber *b*, actuated on by the spring *o* to hold the end of *m* against the glass plate *f*.

Claim.—The glass plates *i* and *f*, as arranged in connexion with the sliding table *m*, the whole being operated in the manner substantially as and for the purpose set forth.

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No. 19,765.—SAMUEL WARD FRANCIS, of New York, N. Y.—*Cane for Paying Omnibus Fares*.—Patent dated March 30, 1858.—The slide G is drawn out in H, the cane is shaken and tube B comes out, the cover F is removed, together with spring E and piston D. Three cent pieces are let fall, one by one, into the tube B, then the piston, spring, and cover F are put in, the tube is inserted in the cane and made fast by pushing in slide G. When the cane is to be used, the knob R is pressed down, wire T is thus pulled upon and puts lever L in motion, projection K acts on lever I, uncovers opening P, and the end of long arm of lever L K pushes two pieces half way out, which are removed by the driver.

The inventor says: I do not limit myself to the arrangement just described, as I know it can be modified in a variety of ways to obtain the same result.

But I *claim* inserting pieces of money in a cane for the purpose of handing omnibus fares, substantially as described and set forth.

No. 20,349.—ROYAL E. HOUSE, of Binghamton, N. Y.—*Improved Omnibus Register*.—Patent dated May 25, 1858.—The nature of this invention is such that the weight of each person passing over the

machine puts into motion a recording machine, and, bringing it against paper, or a suitable material to receive the record, previously adjusted for that purpose, makes an impression or mark. This is accomplished by a movable step C adapted to receive the foot, and, consequently, the weight of a person passing over it, combined with a spring, produces a reciprocating motion of the recording instrument, forcing it against the material receiving the record.

Claim.—The combination of a step, protected substantially as described, resting on a yielding support, such a spring or its equivalent, with recording mechanism, to be operated by the step, substantially as and for the purpose described.

No. 20,986.—LOUIS BRAUER, of Washington, D. C.—*Improved Omnibus Register*.—Patent dated July 27, 1858.—This invention consists in an improvement in omnibus registers, whereby the weight of a passenger on the step is made to operate the indicator or register.

The inventor says: I do not claim moving the indicator of a register by pressure upon the steps.

But I *claim* the employment of an elastic step, by means of the movable rods K K, for operating the register plate and bell in the manner set forth.

No. 21,372.—J. B. SLAWSON, of New Orleans, Louisiana.—*Improvement in Fare Boxes for Omnibusses, &c.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, 1st. The arrangement of an opening in the top of the fare box, through which outside passengers can deposit their fare, when such opening communicates with a chamber in which the fare first falls, and is temporarily arrested previous to being deposited in the receiving drawer beneath, for the purposes set forth.

2d. I claim the arrangement of the passage block D and cover E over the opening in the top of the fare box, for the purposes described.

No. 22,295.—ALBERTUS LARROWE, of Cohocton, New York.—*Improvement in Sled Brake*.—Patent dated December 14, 1858.—The nature of this invention consists in the manner of operating a self-acting brake for sleighs for the purpose of stopping them.

Claim.—The arrangement of lever *c*, scrapers *e*, and rods *f*, operating as described, for the purpose of a self-acting brake, and self-relieving and backing the sled, as set forth.

No. 19,994.—JOHN HOYT, of Fishkill, New York.—*Improvement in the Runners of Sleds*.—Patent dated April 20, 1858.—The nature of this invention consists in connecting the two bobs of the sleigh or sled together by a jointed reach, so that the rear bob X is drawn from or near its front end, at the same time that it has an oscillating motion in a vertical direction entirely independent of the front bob A; also in attaching and connecting the rear bob to the body of the sleigh by a double-cranked axle F, to permit it to have a longitudinal motion to compensate for the different distances between the

two bobs, which may be caused by the different angles by them in passing over a sinuous or uneven track.

The inventor says: I *claim*, 1st. The combination of the T-headed noddle pin P, with the dog joints D D¹, and the front bob A, as described, and for the purposes set forth.

2d. The combination of the noddle pin P with the jointed reach R, constructed and operated as and for the purpose described.

3d. The attachment of the rear bob X to the double-cranked axle F and to the body of the sleigh, in the manner and for the purposes set forth.

No. 19,980.—SILAS BULLARD, of Hartland, Michigan.—*Improvement in the Runners of Sleds*.—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim giving a movement to sleigh runners independent of the load that is above them; nor do I claim giving the runner on one side a movement independent of that of the other; nor do I claim the use of the link joint for connecting sleigh runners to the frame-work of a sleigh.

But I *claim* constructing the rear runners of sleighs in separate frames, each frame being hung by link joints to the cross-bar H, so as to admit of a fore and aft rising and pitching movement in each runner, which shall be independent of the movement of the opposite runner, as set forth.

I also claim the construction of the tie beam H, so contrived as to hold the separate forward runner frames at the proper distance apart by the fastening bolts B *h* near its ends, and at the same time to allow the independent rising and pitching movement in each runner by making the mortise holes in H¹ so large as to admit the bars E² E² to play loosely therein, so as to allow of a slight rolling motion on the axis of H¹ whenever the runners rise or pitch from the irregularities of the ground.

No. 20,903.—WILLIAM W. ST. JOHN, of Lima, New York.—*Improvement in Attaching Sleigh Runners*.—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim allowing motion to the hind runner at the bolsters, said runner being drawn along by a connexion at its forward end.

But I *claim* the combination of the T-formed slide 5, cap 3, and joint 4, for attaching the hind runner of sleighs to the body when said runner is drawn by a connexion to its forward end, substantially as and for the purposes specified.

No. 21,255.—JAMES HARRISON, jr., of New York, N. Y.—*Improvement in Metallic Springs*.—Patent dated August 24, 1858.—This invention consists of a strip or plate of metal wound into a spiral form in such a manner as to give the several coils or revolutions of the spiral a conical form.

Claim.—The coiled spring, as described, having the several revolutions of the coil approximating to the form of cones; or, in other words, having the sides of its several coils inclined to the axis thereof substantially as specified.

No. 19,764.—WILLIAM R. FEE, of Cincinnati, Ohio.—*Improvement in Pneumatic Springs*.—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The described pneumatic spring, having a hollow metallic piston working closely in a hollow metallic cylinder, and packed by leather and oil, for the purpose of increasing the elasticity of the spring, and preventing explosions and leakage, the whole being constructed substantially as set forth.

No. 19,450.—DANIEL G. ROLLIN, of New York, N. Y.—*Improvement in Volute Springs*.—Patent dated February 23, 1858.—The object of this invention is to obtain in a volute spring the requisite amount of play in the direction of the endwise strain, with sufficient rigidity to sustain strains transverse thereto, and it consists in a double volute spring, which has the form of two volutes adjoining each other, and is constructed of a strip of metal coiled spirally so that the rings of the spirals overlap each other, and forms ends or bases which are symmetrical.

The inventor says: I wish it to be understood that I do not confine myself to the peculiar manner in which the double volute spring is made, or to the peculiar machinery which I have described for making it, as these may be varied without affecting the principle of my invention.

But I *claim* a double volute spring, constructed substantially as described, having the form of two volutes rigidly connected so as to form a single spring.

No. 20,127.—GEORGE J. LUCAS, of Poughkeepsie, New York, assignor to Himself and JOHN G. LUCAS, of said Poughkeepsie.—*Improvement in Adjustable Seats for Vehicles*.—Patent dated April 27, 1858.—The nature of this invention consists in the means employed to convert, in a short time, a one seat vehicle into one with two seats.

The inventor says: I do not claim broadly and irrespective of the arrangement shown, so connecting wagon seats that one may be folded or closed over the other, for this has been previously done.

But I *claim* the connexion of the two seats B C by means of levers D D and links I I, substantially as and for the purposes set forth.

No. 20,033.—JOHN A. BOYCE, of Monroe, New York.—*Improvement in Attaching Shafts to Vehicles*.—Patent dated April 27, 1858.—This invention has for its object the combination of the two fastenings, viz: the bolt attachment and the hemispherical or other suitably formed projections, made to bear against corresponding depressions in the ring *e*, by which each is relieved of a portion of the strain which would otherwise bear upon it.

Claim.—Attaching the shafts or poles to the axles of carriages or other vehicles, by means of the combination of fastenings, as described, namely, the bolt connexion and the projections *c c* on the pieces *b b*, made to bear against the depressions *d d* in the double concave ring *e*; the whole being constructed and arranged in the manner and for the purpose set forth.

No. 19,567.—F. L. KIDDER and A. E. AEBY, of Brooklyn, New York.—*Improvement in Attaching the Springs of Vehicles*.—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—So arranging and connecting the springs of four-wheeled vehicles with the body and axles as that the draught is transmitted from the bolster longitudinally through the springs to their points of connexion with the body of the vehicle at each side, and thence, in like manner, through the hind springs to the hind axle, forming a direct line of draught on each side of the body from the front to the rear axle, thus dispensing with the necessity of the ordinary perch and braces to support the axle, using for this purpose the O G or such other form of spring as will accomplish the object in the manner substantially as described.

No. 19,558.—H. P. GOODALE, of Clinton, Massachusetts.—*Improvement in "Fifth Wheel" for Vehicles*.—Patent dated March 9, 1858.—The object of this invention is to connect the front axle with the front spring of the vehicle, and also with the reach, in such a way as to allow the former to turn freely, both vertically and horizontally, so that said axle may be turned or moved to conform to the inequalities of the surface of the ground without straining or at all affecting the reach, and the axle is also allowed to be turned freely by the team for the guidance of the vehicle.

Claim.—The arrangement of the reach H with the groove *f* to receive a screw *e*, in combination with the conical shell or cap E and projection C, connected by bolt D, substantially as and for the purpose set forth.

No. 20,652.—THOMAS MCCONAUGHY and JAMES MCCOLLUM, of Burnsville, Alabama.—*Improvement in Metallic Wheels for Vehicles*.—Patent dated June 22, 1858.—The wheel consists of a box B feathered at each extremity; two wrought metal bands shrunk upon the feathers; a system of peculiarly constructed braces, and a wrought metal rim R connected with the central portion by screw rods. The brace C consists of a shank and head, and is attached to the box by a bolt through the shank.

Claim.—The combination of the feathered box, wrought metal bands, and system of braces C, with the screw rods and rim of the wheel, constructed, arranged, and operating substantially as and for the purpose set forth.

No. 19,088.—JOHN HEIDEN, of New York, N. Y.—*Improvement in Wheel Vehicles*.—Patent dated January 12, 1858.—This invention consists in having both the front and back wheels attached to levers, in both pairs of wheels, connected by rods in such a way that both the front and back pairs of wheels may, as the shafts of draught pole is turned, be "cramped," or turned simultaneously in opposite directions. The object of this construction is to turn the vehicle in a small space.

The inventor says: I am aware that vehicles have previously been

constructed so that their front and back wheels could move or turn simultaneously, as shown.

But I am not aware that the particular means employed for effecting the purpose, as shown, has ever been employed. The devices hitherto employed for such purposes, so far as I am aware, have been complicated, their operation attended with considerable friction, and the movement of the wheels comparatively restricted, cross levers being employed to connect the two pairs of wheels.

I do not claim, broadly, connecting the front and back wheels of vehicles so that both pairs of wheels may be "cramped" or turned simultaneously, for the purpose specified.

But I *claim* attaching the front and back wheels J J G G to their respective levers K K L L M H H and I, which are pivoted respectively to the bars A B, and connected by the rods N N, substantially as and for the purpose set forth.

No. 19,092.—LOUIS KILLNER, of Brooklyn, N. Y.—*Improvement in Velocipedes*.—Patent dated January 12, 1858.—This invention consists in the use of treadles in connexion with a gearing board, so arranged and applied to a wheel vehicle that the occupant thereof may propel the vehicle along by operating the treadle with a greater or less speed commensurate with the strength or physical capacity of the occupant; also in using, in connexion with the treadles, levers so arranged as to serve as auxiliaries to the treadles when an increased propelling power is required.

The inventor says: I *claim* the treadles E E connected by strip H, or its equivalent, and used in connexion with the guides *h* and board G, arranged to operate as and for the purpose set forth.

I also claim the adjustable or yielding foot-pieces *d* attached to the treadles E E, substantially as described for the purpose set forth.

I further claim, in connexion with the treadles E E, the auxiliary propelling devices formed of the levers J J M M N N, arranged as described and for the purpose set forth.

No. 21,615.—ISRAEL MOSES, of New York, N. Y.—*Improvement in Ambulance Wagon*.—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* an army ambulance constructed and arranged as described—that is to say, having ability to transport the sick and wounded under cover, either lying or sitting, by means of a system of sectional folding seats arranged along the sides as described; as also for carrying the surgeon's medicines and implements in removable cases, fitting in and under said seats and arranged in drawers under the body of the vehicle, so that said cases may be used for general or detached service as required. In the arrangement of an adjustable door capable of serving as a table, as set forth. In the arrangement herein described of the hammock for one, two, or more persons. And in combining with the vehicle, as a central support, the tent necessary for the hospital camp; the whole being combined and operating as a connected device for transporting, subsisting, and

protecting the sick and wounded of an army and their appropriate attendants, as herein set forth.

No. 19,112.—SYLVESTER A. HOUGH, of Oxford, Ga., assignor to Himself and A. S. HOUGH, of Madison, Ga.—*Improvement in Wagon Brakes*.—Patent dated January 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim applying the brake rubbers by the gravity of the load broadly considered, as such is not new.

But I *claim* as an improved construction of running gear for rendering the gravity of the load thus available, the secondary frame H I secured to the front axle, in combination with the plates *e e*, connecting the same with the main frame, the rollers *c c* between the frames, and the notches *m m* related to the connexion of plates and frames, as described, when used with a slotted connexion of coupling bar and rear axle.

No. 21,569.—ALBERTUS LARROWE, of Cohocton, N. Y.—*Improvement in Self-Acting Wagon Brake*.—Patent dated September 21, 1858.—In the engravings letter A shows the hand wheels; B the brake bar; C a cross-piece on which the bar B rests, and is guided by the spring which passes over each end of it into the brake bar as the bar moves forward or backward; D the guide pole; E the neck yoke; G the rubbers; on the front side of these rubbers is a piece of metal which extends on the side of the rubber and which operates in a groove in the bar B, and is to prevent the rubbers from falling out of place; H the rear lever; *c* rods extending from the lever H to the brake bar, the lower ends of which pass below piece C, and is also a guide to it in giving direction to the movement of the brake bar.

Claim.—Constructing the rubbers with the flanges on each side operating loosely in grooves in bar B, and resting on springs *e* for allowing the rubber to rise upon an inclined plane, and relieve the friction of the wheels when backing the wagon and for replacing the rubbers, the whole operating as described and for the purposes set forth.

No. 19,477.—JETHRO W. BARNES, of Murfreesboro, N. C.—*Improvement in Manure Wagons*.—Patent dated March 2, 1858.—The wagon body A is furnished with two inclined sides *a a*¹, one of which is made to work up and down, and at the same time has a vibratory motion given it by a wedge-shaped piece *c* fastened to the outside and resting on the lever *i*. The bottom of the body is provided with two hinged pieces *d d*, which open and close the passage through which the manure drops. Two bent straps *e* are connected with the hinged piece *d*, and pass under projection *f f* on the ends of piece *d*¹. C is a screw shaft placed inside of and near the bottom of the wagon, which has a vertical adjustment; this shaft grinds and feeds the manure to the discharge opening, and prevents the choking up in the bottom of the machine.

The inventor says: I *claim* converting the broadcast distributor

into a drill machine by reversing the axle, substantially in the manner set forth.

I also claim the movable side or end *e*, in combination with the sliding bottom *g*, as set forth, whether the machine is used for a drill or broadcast machine.

No. 19,550.—EDWARD L. DORSEY, of Johnson county, Indiana.—*Improved Machine for Fitting Wagon Tires*.—Patent dated March 9, 1858.—The spring slide *M* governs and applies the main wheel *B* to the rim or tire. The small wheels *D D* are attached to the head piece *N N* of the arms on horizontal axis, and guide the main wheel on a direct line. The small wheels *E E* are also attached to the arms on perpendicular axis, and are to guide the wheels *D D* on the edge of the tire. The hand *F*, permanently attached to the axis of the wheel *B*, is to mark the starting point.

The inventor says: I do not claim the wheel *B*, or the measuring of the tire by means of this wheel.

But I *claim* the arrangement described of the wheels *E E* and *D D*, with the wheel *B*, hand *F*, and spring slide *M*, substantially in the manner and for the purpose fully set forth.

No. 19,372.—J. W. LANGDON, of Marengo, Illinois.—*Improvement in Extension Reach for Wagons*.—Patent dated February 16, 1858.—This reach is formed of two parts *A B*, one being placed over the other, and connected by clasps or guides *a a*, which keep them together, but allow them to slide longitudinally. To one part *B* there is fitted a rack *C*, and a pinion *D* in the other part *A*, the pinion gearing in the rack, and provided with a stop or pawl *E*, and has several teeth *e*. The pawl is secured down upon the pinion by means of a thumb-screw *F*.

The inventor says: I am aware that reaches have been devised in various ways so as to be rendered capable of being extended as occasion may require, and I do not broadly claim constructing a reach of two parts so connected as to be extended or shortened.

But I *claim* the arrangement of the pawl *E*, screw *F*, pinion *D*, and rack *C*, as and for the purposes set forth, whereby the reaches may be expanded, contracted, and locked at pleasure, and effective assistance given to the team, when necessary, by the driver.

No. 20,795.—JONATHAN HIBBS, of Tullytown, Pennsylvania.—*Improvement in the Running Gear of Wagons*.—Patent dated July 6, 1858.—This invention is an improvement in that class of vehicles which have both of the axles capable of turning on king-bolts or centre-pins, in order thereby that the vehicle itself may be turned in a curve of shorter radius than it could be when the hind axle is fixed.

As shown in the engravings, both the axles are connected to any suitable framing, as *a a*. At *b* is the front axle, held to the bolster by the king-bolt *b¹*; and at *c* is the hind axle, held in like manner by the bolt *c¹*. At *a* is a curved or segment rack, the arc being struck from *b* as its centre. At *e* is represented a similar rack, curved in the

opposite direction, and attached to the hind axle by pieces *e*¹ in like manner.

Claim.—The method described of operating both the axles of a wagon in turning curves, namely, by means of the curved rack affixed to each axle, in combination with the connecting pinion, in the manner and for the purposes substantially as set forth.

No. 20,504.—BENJAMIN B. MUNROE, of South Dansville, New York.—*Improvement in Brake for Wagons, &c.*—Patent dated June 8, 1858.—A is the tongue, to the forward end of which the team is secured by a yoke. B is the brake-bar, pivoted to the tongue, in the centre, at *c*. The tongue is secured in the hounds *h* by a pin *p* passing through them in mortises, which admit of a backward and forward movement of the tongue. The brake-bar has hinge-joints *i* near the brakes at each extremity.

The inventor says: I *claim*, 1st. The brake-bar B, when jointed in the manner and for the purpose set forth.

2d. I claim the extension perch, constructed in the manner specified.

No. 19,947.—JOHN T. PRICE, of Rockville, Indiana.—*Improvement in Giving Adhesion to Driving Wheels of Steam Vehicles, Ploughs, &c.*—Patent dated April 13, 1858.—The wheels are so arranged that one (or one set with spurs) makes a perfect wheel; if that is not power enough, two can be applied, or even three, as seen in the engravings. When three are applied the corrugations run zig-zag across the face of the wheel, as seen at letters W W W W running across.

Claim.—The arrangement of spurs on driving wheels for a steam plough or land carriage, so that the said spurs do not interfere with the rolling of said wheel, unless it should slip on the ground, and then, when it slips, said spurs (aided by the diagonal corrugations tending to face the dirt against them) to take effect and prevent it, as substantially set forth.

No. 21,081.—GEORGE F. OUTTEN, of Norfolk county, Virginia.—*Improvement in Safety Whiffletrees.*—Patent dated August 3, 1858.—A is the whiffletree; B the rod; *c* clips or bands; D D the hooks; E the traces; F the lever; G the strap.

Claim.—The hooks D D, constructed with two different angles, and which allow the traces to commence detaching as soon as they commence revolving, and are released entirely at one-fourth of a revolution, operating as and for the purposes set forth.

XI.—HYDRAULICS AND PNEUMATICS.

No. 22,219.—HENRY M. PAINE, of Worcester, Massachusetts.—*Improvement in Air Engines*.—Patent dated November 30, 1858.—The nature of this invention consists, first, in moistening atmospheric air previous to its entrance into the pump, so as to refrigerate and render it highly sensitive, at comparative low temperatures, when pressed into the heater, and thus obtain an expansive force possessing great elasticity and lubricating property not realized in the use of air or the gases in their normal condition.

Claim.—The simultaneous moistening and refrigerating of the air previous to its entrance into the pump, in combination with the modifying valve P, substantially in the manner and for the purposes described.

No. 22,281.—JOHN ERICSSON, of New York, N. Y.—*Improvement in Air Engines*.—Patent dated December 14, 1858.—This invention consists in so constructing, arranging, and actuating the supply and working pistons within a single cylinder, that the cold supply air, in being transferred to the heater for the purpose of having its tension augmented, shall cool that portion of the cylinder in which the working piston moves, and keep it at so low a temperature that any kind of metal, or any other suitable material, may be employed for rendering the piston air-tight.

The inventor says: I *claim*, first, the within described system of levers, rock shafts, and connecting rods, or its equivalent, for combining the supply and working pistons with the crank shaft of the engine to produce the operation specified.

Second. The ring C⁴, the notches C³, check pins C⁵, and the elongation C³, of the supply piston, or their equivalents, for effecting the required transfer of the air to and from the heater, and the cooling of the cylinder and preservation of the packing of the working piston.

Third. The telescopic tube *g* applied within the working cylinder and its prolongation, by means of which tube the air is brought in proper contact with the heating surfaces, substantially as set forth.

No. 19,475.—JACOB ARMDT, of Wheeling, Va.—*Improved Bellows*.—Patent dated March 2, 1858.—A A A A is an oblong right-angled trunk resting on platform B B B. C C is a plank dividing the trunk into two parts, and in it is placed the valve D. E E E E is the lower plunger. H is a valve in the plunger E E E E. By working the lever M M M, the lower plunger E E, &c., is put in operation, and the air, coming in through the plunger valve H and being forced through the middle valve D, is pressed against the upper plunger N N N N, which is forced downwards by its own weight; a continuous blast is forced out at the throat V.

The inventor says: I do not claim the movable wings with the

springs attached, as they are but a modification of the well known arrangement of metallic packing.

But I *claim* the combination of the trunk A A A A with the lever plunger E E E E, the upper plunger N N N N, and the blast gauge Q Q Q, substantially as and for the purposes set forth.

No. 20,045.—DAVID CUMMING, of Sorrel Horse, Pa.—*Improvement in Blowing Apparatus*.—Patent dated April 27, 1858.—The nature of this invention consists in certain improvements in apparatus for blowing a uniform and efficient stream of air for the purpose of concentrating a flame from a lamp or gas burner.

The inventor says: I *claim*, first, the bellows B in combination with the exhaling bellows or receiver C, when the former and latter are compressed by springs or weights of different capacities in proportion to the exits of the said bellows, for the purpose of producing a uniform blast, as described.

Second. The arrangement of the bellows B and C on the base A, with the channel D, valve *a*, orifice E, valve *b*, and exit *c*, essentially as described for the purpose set forth.

No. 19,013.—WILLIAM S. CARR, of New York, N. Y.—*Improvement in Supply Cocks*.—Patent dated January 5, 1858.—*k* is a valve in the cock A, opening upwards by the primary supply from the pipe *d*; *l* is a seat formed in the cock by a division 5, in such a manner that water passing from the pipe *g* goes through said seat in the direction of the arrows to the pipe *n*; over the seat *l* is a diaphragm *x* of India rubber, leather, or other suitable material, kept in place by a screw cap 6 confining its edges tightly; *m* is a plunger passing through the cap 6, and formed as a bottom end of a size to set over and cover the seat *l*—the diaphragm *x* intervening—and the plunger is forced towards the seat *l* by a regulated amount of power from the lever *n* and weight *o*, or an equivalent device. The cock A and parts are to be sustained on a plate *p*.

The inventor says: I do not claim the use and secondary supply of water; neither do I claim any peculiar arrangement of pipes in connexion with such two supplies and a hot water boiler; nor do I limit myself to the manner of arranging the water pipes shown in figure 2, as the same forms no part of my invention.

But I *claim* a weighted diaphragm *x*, or its equivalent, and seat *l*, between the secondary supply and the hot water boiler, in combination with the valve *k*, or equivalent, between the primary supply and the hot water boiler, substantially as and for the purposes specified.

No. 20,314.—SETH ADAMS, of Boston, Mass.—*Improved Valve Cock*.—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim any of the stop cocks to which I have had occasion to refer in the explanation of the difference between them and my improved disk valve cock.

But I *claim* my improved disk valve cock, made substantially as described, viz: with one coupling pipe, a valve seat, disk valve, and

valve chamber, arranged and applied together essentially as specified, so that when the valve may be raised above the bore of the coupling pipe, and a column of fluid may be passing through the said pipe, such column shall flow through the pipe and valve chamber in a line with the axis of the pipe, or in a straight line, and enter the valve chamber at one side and pass out of its bottom, or enter at its bottom and pass out of its side, and through an opening of the valve seat, whose sectional area shall be equal to or greater than that of the bore of the coupling pipe.

No. 20,788.—HENRY GETTY, of Brooklyn, N. Y.—*Improvement in Faucets*.—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim supplying air to the cask or barrel through the cock.

Neither do I claim a self-closing or valve faucet.

And I do not claim a drip hole to allow water, leaking through at the valve stem or piston rod, to run away at the discharging orifice.

But I *claim*, first, the cylinders *g* and *h*, and slots 3 and 4, in combination with the arm *i* on the valve stem *e* and the inclines 6 6, substantially as and for the purposes specified.

Second. I claim the suction pipe *k* between the point of leakage or overflow at the spindle rod or valve stem and the delivery pipe, when said pipe *k* is in such a position to the discharging liquid that the rush of said liquid past its end shall augment the speed of the liquid in said pipe and draw away any leakage, as specified.

Third. I claim the air tube *l*, of thin sheet metal, or equivalent material, inserted into the shell of the faucet, substantially as and for the purposes specified.

And, in combination with said tube *l*, I claim the self-acting air valve *o* on the cock, substantially as and for the purposes specified.

No. 20,853.—N. P. WHITTELEY, of Meriden, Conn., assignor to JAMES A. FRARY, of Meriden, aforesaid.—*Improved Faucet*.—Patent dated July 6, 1858.—This invention relates to an improvement in that class of faucets designed for drawing molasses and other thick substances. The object is to obtain a free passage for the substance to be drawn.

Claim.—The adjustable gate B constructed in the form of a segment of a sphere, and fitted to the tube A over a concave seat *a* provided with a packing *e*, substantially as and for the purpose set forth.

No. 22,402.—MARTIN ROBBINS and JAMES POWELL, of Cincinnati, Ohio, assignors to JAMES POWELL, aforesaid.—*Improvement in Faucets*. Patent dated December 21, 1858.—This invention relates to that class of cocks in which a valve and seat take the place of the more customary taper chamber and perforated plug, and consists in an arrangement to insure the effective relative working of the valve and the key, and to prevent leakage around the stem of the latter.

Claim.—The application to the key stem of the collar I, cushion Q, and loose collar E, or their equivalents, arranged and operating in

combination in the manner described, to compensate for the lateral wear or displacement of the stem.

No. 20,799.—GILBERT HUBBARD, of Montville, Mass.—*Improved Measuring Faucet*.—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The combination of the passages A *e* with the rotating cylinders B B¹, provided with followers N, connected by the lever P, and operated through the medium gearing *i h* G, pawl *g*, nitchet F, and spring H, the above parts being used in connexion with the cut-off M, arranged with the nut J and levers K L, or other equivalent device, whereby the cut-off may be closed automatically and simultaneously with the cessation of the rotation of the cylinders B B¹, substantially as and for the purpose set forth.

No. 19,929.—A. JAMINET, of Florissant, Mo.—*Improvement in Filterers*.—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Combining one or more doubled-chambered preparatory-separating vessels B B¹ B² B³ with one or more filtering vessels E E¹ E², and furnishing both sets of vessels with puppet or other valves D D, and operating said valves by means of tilting troughs through the agency of the weight of the filtered water, all substantially as and for the purposes set forth.

No. 19,335.—CHARLES BALLARD, of Worcester, Massachusetts.—*Improvements in Filtering Apparatus*.—Patent dated February 16, 1858.—The pipe B is fastened to the supply pipe leading from the reservoir fountain, with the aperture G on one side, the filter being turned so that the passages D D range from right to left, the water will have free entrance to the case through the filtering medium F. When the pipe C is turned so that its opening H agrees with the left hand passage in the lever head, the water is drawn in the centre of the filter.

The inventor says: I *claim*, first, increasing the extent of the surface of the filtering medium by folding or supporting the folds, substantially as described.

Second. I claim the combination of the pipes B and C and heads, having passages, as described, with the case A, when constructed and operating as set forth.

No. 21,964.—LEMUEL P. JENKS, of Boston, Massachusetts, and FRANCIS DRAPER, of East Cambridge, Massachusetts.—*Improved Filtering Cock*.—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim the reversal of the filter to change the current, nor the reversion of the vessel containing the filtrating portion of the filter, nor the purifying the filter by means of the specific gravity of a small portion of water left behind after the full current has ceased.

We do not claim the alternate transmission of the water from one

side to the other in filtering cocks, nor do we claim that device in combination with the optional passage of liquid through the case without passing through the filter.

Nor do we claim the alternate transmission of the water by one passage across the width of the filter.

But we *claim* the combination and arrangement of a filtering cock, substantially as described, giving the optional transmission of the water through the filtering medium, in either direction, or through the filtering case; the former, without unnecessary impediment to the current, by one passage across the width of the filter, from a rotating two-way cock placed by the side of the filtering medium and closed or discharging at pleasure, the filtering case and the filtering medium being stationary.

No. 21,809.—JOHN K. BARNEY, of Warren, Rhode Island.—*Improved Gauge for Contents of Casks, &c.*—Patent dated October 19, 1858. The body of the instrument is composed of two rods inserted in hollow tubes, marked *a a*, which tubes are united so that the rods turn therein as upon a hinge, with arms on each end of the rods, marked *b b* and *c c*. Attached to the arms *c c* is an index *d* made to slide in an open bar, so adjusted and adapted as to show the exact distance between the points of the arms *b b* when extended in the cask.

Accompanying the instrument are tables of calculations by which, when on inspection, the contents of the cask are ascertained when the measurements are made, by means of a sliding scale adapted to the table.

Claim.—The double rods, with arms, tubes, and index, as described, and their combination in the instrument, by which the cask is measured in length and diameter, outside or inside, in manner set forth, and the construction of the tables with slides, by which is found by inspection the mean diameter, the proper allowance for thickness of staves or head, and the quantity of contents of the cask, from the given or ascertained admeasurement.

No. 21,814.—ERASTUS T. BUSSELL and JOSEPH SMITH, of Cincinnati, Ohio.—*Improved Liquid Gauge.*—Patent dated October 19, 1858.—The nature of this invention consists in providing a double-spring valve cock, with a graduated cylinder, and plunger working therein, by means of which all manner of liquid substances can be measured as they are drawn from the barrel, and, when so measured, can be discharged suddenly into a jug or other vessel without the use of a tunnel.

Claim.—The double-spring valve, composed of valves *F F*, springs *S*, and rod *E*, or their equivalents, combined with a measuring faucet, as shown and described.

No. 20,532.—CHARLES VANDER WOERD, of Cambridge, Massachusetts, assignor to ALVAH CLARK & SONS, of said Cambridge.—*Improved Hose Coupling.*—Patent dated June 8, 1858.—This invention consists in the employment of an elastic tube *E* placed within the coupling

A B, and arranged in relation to the other parts, that the pressure of the water within the hose will keep the coupling water tight. Also, in a peculiar means for connecting the heads of the coupling together.

Claim.—The arrangement and combination of an elastic tube E with the heads of the couplings A B, so as to cover the joint *j* and allow the same to be kept tight by the pressure of the liquid, substantially as shown and described.

No. 22,166.—JAMES C. COOKE, of Middletown, Connecticut.—*Improved Hose Coupling.*—Patent dated November 30, 1858.—This invention consists in providing each part or half of the coupling with both male and female flanges, or parts that interlock each other, arranged and applied in such manner that either half of one coupling will readily match or unite with either half of any other coupling, and thus prevent the necessity of ever changing ends with the length of hose or other article upon which the coupling is placed or used, as is often the case with the ordinary coupling; and this invention further consists in providing this coupling with a tapered part upon which the hose is fastened, the end being beveled, and with a tapering ring or band screwed or otherwise fastened to the coupling.

Claim.—The female parts *a a* in combination with the male parts *c c*, arranged and made to operate substantially for the purpose specified.

No. 22,296.—CHARLES LENZMANN, of Brooklyn, New York.—*Improvement in Engine Hose.*—Patent dated December 14, 1858.—This hose consists of a seamless tubular web, woven in a peculiar manner, of the best and strongest hemp, thoroughly saturated and covered with a composition of matter of which linseed oil and umber are the principal ingredients, with the addition of a proportion of yellow ochre, or a similar pigment, for the purpose of producing a more agreeable color.

Claim.—As a new article of manufacture, the hempen hose, woven, saturated, and covered as described.

No. 21,307.—JOHN B. ALDEN, jr., and EDWIN L. GATES, of Worcester, Massachusetts.—*Machine for Cleaning Hose, &c.*—Patent dated August 31, 1858.—A represents the frame, a part B of which is jointed to the other, so as to be movable to the position shown in the dotted lines in the engravings, and which has bearings for the brush C, and the other part similar ones for the brush D. The brushes C D are bolted or geared to admit of their separating from each other without stopping their rotary motion, they being cylindrical brushes. F F are rolls to guide the hose. I is a roll supported by the arms J L and receiving motion from D. O is a catch to hold the part B in place when not opened.

The inventors say: We are aware that revolving brushes are not new, and do not claim such, as they have been used, but only when constructed and operating as described.

We *claim* the combination and arrangement of the brushes, one or both of which is movable to and from the other during operation, and

the rolls F F I, when constructed and operating in the manner and for the purposes substantially as described.

No. 19,029.—JOHN HYDE, of New York, N. Y.—*Improvement in Hydrants*.—Patent dated January 5, 1858.—A is the hydrant; B the water pipe connecting with it; C the valve; D the waste pipe; E the space between the open and shut valve; F the aperture to admit air into the upper part of the space E when the valve is open; G is the collar or shoulder on which the valve rests to shut off the water; H is the valve. The lower part of the rod C is bored out and a branch D added; the branch D being hollow, the two constitute a siphon. This rod is firmly set on the valve H, and the hole closed at the lower end where the rod is fastened to the valve by a nut.

Claim.—The application and use of a siphon to hydrants for the purposes specified, constructed and arranged substantially as described.

No. 19,022.—RICHARD DE CHARMS, of Philadelphia, Pennsylvania. *Improved Hydrant*.—Patent dated January 5, 1858.—The claim and engravings explain the nature and object of this invention.

The inventor says: I do not claim to have invented a plug and hydrant operating on the principle of wasting water by a three-way cock, but I merely claim to have improved them (as they have been from time immemorial constructed on that principle) by a very peculiar simplification of their operation. For, in respect to so much of my present improvement as pertains to the voiding of the waste water, that which I do *claim* is—

The making the solid rod of the three-way cock, by which it is operated, a tube bent at the top so as to let on, stop off, and waste the water, by the simple turning of that tube as the top of a faucet. The combining of the first two with the last of these three functions in the vertical motion of a single member of the three-way cock is what I claim as the gist of my improvement of that hydraulic machine, and this feature of my claim, together with the provision of the two air-tight chambers, and the shaft for deriving the waste water as well from the outside as from the inside of the plug or hydrant, substantially as set forth.

No. 19,206.—WASHBURN RACE and S. R. C. MATHEWS, of Seneca Falls, New York.—*Improvement in Hydrants*.—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim broadly, for we are aware that hydrants have been constructed, and their parts arranged in various ways, so that they could be removed for repairs without excavating, the parts being rendered capable of being withdrawn from the case; but we are not aware that an arrangement like ours has ever been used for effecting the purpose.

Neither do we claim the casing of hydrants, when the case and base or pipe D are in one piece and permanently attached to the pipe from the “main,” as that has been previously done.

Neither do we claim, separately, the arrangement of the valves B¹ G.

But we *claim*, 1st. The annular valve B¹ and the disk valve G attached to the rod C, in combination with the escape or leak-opening j and seat F, the above parts being arranged to operate as and for the purpose set forth.

2d. The combination of the case A, induction pipe D, provided with flanch k and the jacket E, when arranged as shown and described to effect the desired end, to wit: the ready removal, when necessary, of the case and working parts of the hydrant for repairs.

No. 19,330.—KINGSTON GODDARD, of Philadelphia, Pennsylvania.—*Improvement in Hydrants*.—Patent dated February 9, 1858.—When the water is required to run, the handle C must have its outer end elevated to a position which causes the plunger B to descend and press upon the plate h, whereby the valve c is opened and the water rushes up on all sides of the plunger, between it and the shell A, and exits through the spout F.

The inventor says: I do not wish to be understood as claiming broadly the use of a plunger, or the construction of a self-closing valve.

But I *claim*, 1st. The plunger B operated upon by a weighted handle, in combination with the self-closing spring valve C; the whole constructed and operating substantially as and for the purpose specified.

2d. The construction of the shell A in two sections, in combination with the removable valve seat piece D and bottom piece e, the several parts arranged and operating substantially as described for the purposes set forth.

No. 19,513.—JAMES POWELL, of Cincinnati, Ohio.—*Improved Hydrant*.—Patent dated March 2, 1858.—This invention provides a hydrant which prevents any waste of water, and thus saves the foundations of buildings from being undermined, avoids freezing in winter, and affords facilities for getting at and repairing its valves without digging up.

The inventor says: I *claim*, 1st. The combination of two plungers E F working in line with each other, and the double-chambered cylinder C having two escape passages, substantially as and for the purposes described.

2d. The combination of the peculiarly shaped slotted cam L and the crank J, with the two plunger shafts G H, substantially as and for the purposes set forth.

No. 19,511.—JOHN PARHAM, of Philadelphia, Pennsylvania, and SAMUEL P. PARHAM, of Trenton, New Jersey.—*Improved Hydrant*.—Patent dated March 2, 1858.—The object of this invention is to prevent the water being obstructed by the valve and foreign substances which the water may contain when the valve is open and the water is passing up through the main pipe into the plug cylinder.

Claim.—The peculiarly combined arrangement for a fire plug or

street hydrant, consisting of the case or cylinder A of the plug or hydrant, which has its valve seat E on a level with the bottom of the waste passage N, so that the whole of the waste water may discharge, and its main or supply pipe B a short distance above the lower end of the cylinder, so that the valve F may be let down below out of the way of the free passage of the water, and the hollow revolving but not rising and falling female nut J K, which is made to operate the screw rod of the supply valve, so as to force it down into the reception chamber O below the supply pipe B and the waste valve M m, which is coupled loosely and peculiarly to the main valve rod *a* and fast to a spring *e*, so as to be held closed when the main valve is opened, and opened when it is shut; all substantially as and for the purpose set forth.

No. 21,338.—JAMES R. HIGGS, of Utica, New York.—*Improved Hydrant*.—Patent dated August 31, 1858.—This invention consists in placing in the upper part of the hydrant a cylinder which extends from the cap of the pipe downwards, in which cylinder is the principal valve and the valve shaft, by means of which the valves are opened and closed, and which cylinder, with the shaft and valve, may be removed without interfering with the case or pipe; the use of two valves, one of which is placed at the bottom of the cylinder and the other further down in the pipe, both valves being made to operate at the same time. The waste rod is connected with the cylinder and valve rod in such a manner that the waste pipe is opened and shut when the valves are shut and opened.

The inventor says: I *claim*, 1st. The cylinder C, constructed substantially as described.

2d. The combination of the cylinder C with the upper valve E and its rod G, when contained and operated in case A, substantially as described.

3d. The combination of the cylinder C and valve E with the waste rod S and waste pipe *a*, substantially as described.

4th. The combination of the cylinder C and valve E with the lower valve F, substantially as described.

No. 21,858 —JAMES SWAN, of Brooklyn, New York.—*Improvement in Hydrants*.—Patent dated October 19, 1858.—The design of this invention is to shut off the water from the hydrant below the surface of the earth sufficiently to protect it from freezing, and at the same time to exclude it entirely from within the hydrant.

Claim.—The use of the elastic tube in combination with the metal or rigid tube A, for the purpose of excluding water from the entire length of the hydrant, when arranged, combined, and operated substantially as described.

No. 22,357.—SAMUEL P. FRANCISCO and WILLIAM P. DICKINSON, of Reading, Pennsylvania.—*Improvement in Hydrants*.—Patent dated December 21, 1858.—The nature of this invention consists in providing a cylinder and piston for the hydrant or fire plug with suitable openings in both; the openings in the piston being provided

with valves on the under side ; the air admitted through the openings in the cylinders is allowed, after water has been drawn, to flow into the cylinder under the piston, when the piston is raised by the operator, either through the piston openings or the orifice at the side of the cylinder ; and the operator, by the downward motion of the piston, which thus compresses the air, is enabled to eject the water remaining in the cylinder and delivery pipe, thus preventing any danger from freezing by allowing no water to remain in the cylinder or delivery pipe.

Claim.—Providing said cylinder and piston with suitable openings for the admission of the air, and for the purposes set forth.

No. 19,224.—JAMES S. GWYNNE, of New York, N. Y., assignor to SAMUEL NICOLSON, of Boston, Massachusetts.—*Improved Hydraulic Engine.*—Patent dated January 26, 1858.—An apparatus constructed to embrace the principle of this invention can be employed as a pump, a steam engine, or a water wheel.

The inventor says : I *claim* applying and arranging the roller passage *b b*, the roller D, and the cam piston B, together, and in the case A, in such manner that a liquid, when expelled from the pump, may pass out through the said roller passage *b b*, as described.

I do not claim the combination of an air vessel with a pump.

But I claim the arrangement of the closed air vessel G on the case A, and in respect to, and so as to operate in connexion with, the opening *b b* and the roller D of the said case, or serve not only as an air vessel, but as a receiver and guide for the roller, substantially as set forth.

No. 20,523.—JOSEPH F. WARNER, of Philadelphia, Pennsylvania.—*Improvement in Hydraulic Rams.*—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Using the water after passing the puppet valve by conducting it to a vessel or cup or basin having a waste opening or openings in the bottom, and used as a power upon a lever or beam to overbalance another power which is greater when the cup is empty, and less when the cup or basin is full. The conducting pipe D, the closed valve chamber A, the set screw I fixed over the valve, the fulcrum H, and beam or lever G, all the parts as substantially set forth or used in combination for the purpose of keeping any hydraulic ram to which it may be attached in motion.

No. 19,398.—CALVIN WOODWARD and GEORGE M. WOODWARD, of New York, N. Y.—*Improved Hydraulic Valve.*—Patent dated February 16, 1858.—G are the valves, which are formed of the section or segment of a tube, so that they may be fitted snugly within the tubes F and cover the orifices of the passages *a*. The valves G have tenons or axes *c*, one at each end, which fit in holes made in caps H which cover the tubes F, and are connected by screw bolts I which extend entirely through the opening C and through the centre of the caps H.

Claim.—The arrangement and combination, as shown and described,

of the valves G, caps H, and bolts I, the caps serving the extra purpose of bearings for the valves, and the bolts the double purpose of packing the caps and stopping the valves.

No. 20,169.—WILLIAM C. PERRINE, of New York, N. Y.—*Improvement in Fluid Metres*.—Patent dated May 4, 1858.—The nature of this invention will be explained by reference to the claim and engravings.

The inventor says: I *claim* making the measuring chambers gradually larger in each direction from near the middle, where the exterior edges of the diaphragms are fastened substantially as described, so that the diaphragm will be held by the water or remain in contact with the part so enlarged until it is drawn away by the centre of the diaphragm or by the plates which move and traverse with the centre of the diaphragm.

I claim the recesses P P in the ends of the measuring chambers in combination with the plates H H, arranged to work into them, (the said recesses.)

I also claim the openings *w w* in the plates H H provided with valves, or such equivalent openings as will well answer the same purpose.

I claim making recesses *p p* with their sides parallel in the flanges T T, so that that portion of the diaphragm in or opposite to said recesses may vibrate a very little between the measuring chamber and the line where it is bound or held firmly by the flanges.

No. 20,979.—EPHRAIM D. WEATHERBEE, of Worcester, Massachusetts, assignor to Himself and LORENZO HARDING, of Worcester aforesaid.—*Improved Fluid Metre*.—Patent dated July 20, 1858.—To construct this metre a tight vessel A is made having a partition B across its middle reaching from the bottom to a little above the top of the sides, and dividing the vessel into two equal parts. On the sides of the vessel there is made two supports L opposite to each other to hold the shaft C which lays across directly over the partition B; on this shaft C is fastened the tube D at right angles to it; this tube is to have inside a proper quantity of mercury S, or to be otherwise weighted. Between each pair of the tubes F is put a short tube G projecting down below the bottom of the vessel, and having at their lower ends valves I¹ I opening downward; under each pair of tubes F is placed two small vessels H¹ H, which are suspended by rods K K.

The inventor says: I do not wish to be understood as confining myself to the exact shape or proportion described, but to vary them as may be found convenient, so long as I keep the same principles or modes of operation.

What I *claim* is, 1st. The arrangement of the weighted tube D, the vessels H and A, when constructed and operating substantially as set forth.

2d. I claim the combination of the siphons J J with the vessels H¹ H, and tubes G with valves I¹ I, for the purposes specified.

No. 22,315.—CHARLES WILLIAM SIEMENS, of London, Eng — *Improvement in Fluid Metres*.—Patent dated December 14, 1858; patented in

England March 4, 1853.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, first, the construction of rotary fluid metres with a revolving wheel or drum, having tangential or oblique apertures, and connected with a counter and enclosed in a fluid-tight case, and so arranged that the fluid to be measured flows from the centre towards the circumference of the wheel or drum, substantially in manner described.

Second. The application to rotary fluid metres of retarding vanes, substantially in manner and for the purpose described.

Third. Constructing the revolving part or wheel of a fluid metre and the fixed part or pipe which introduces the fluid into it with two or more collars or flanges on one or both of the said parts, so as to check the passage of the fluid by the producing of eddies, substantially in manner described.

Fourth. Supporting the wheels or revolving parts of fluid metres by means of a flat or hollow plate or cap of steel, or other suitable material, attached to the wheel and resting upon a fixed pivot, and combined with an oil chamber, substantially as described.

Fifth. Constructing fluid metres with a revolving wheel or drum having tangential or oblique apertures and retarding vanes, and provided with an oil chamber and pivot, and connected to a counter and enclosed in a fluid-tight case, substantially as described.

Sixth. Constructing fluid metres with a dirt box or strainer arranged so that it may be opened and the dirt removed without disturbing the metre or the pipes, substantially as described with reference to figures.

Seventh. Constructing fluid metres with the wheel work or a portion of the wheel work of the counter enclosed in an oil chamber which is exposed to the pressure of the fluid in the metre, substantially as described.

No. 19,414.—WILLIAM M. FARIS, of Wheeling, Va.—*Improved Water Metre*.—Patent dated February 23, 1858.—This invention provides a simple attachment for hydrant pipes, whereby the exact quantity of water used by each family in a city may be measured.

Claim.—The employment of two vessels, constructed and combined in the peculiar manner shown, in combination with the horizontal discharge pipes and a registering device, whereby nearly an accurate registration of the quantity of water discharged may be effected with a uniform or ununiform pressure of the head or source, substantially as described.

No. 20,842.—WILLIAM DARKER, jr., of Philadelphia, Pa., assignor to J. B. THOMPSON, of Philadelphia aforesaid.—*Improved Water Metre*.—Patent dated July 6, 1858.—This invention consists in combining and arranging, with an oscillating piston A enclosed in a box B, a series of parts for operating a slide valve K connected with the registering apparatus in such a manner as to cause the valve to be moved at the end of each oscillation of the piston.

Claim.—The combination and arrangement of the eccentric cams G G¹, angular rods H H¹, attached to the valve K, and curved springs

E E¹, and friction rollers F F¹, on the sides of the piston A, for giving the required reciprocating movement to the valve, substantially in the manner described.

No. 21,283.—FRANKLIN A. TENNEY, of Concord, N. H.—*Improved Water Metre*.—Patent dated August 24, 1858.—In this invention the water, as it flows from the measuring vessel, will first fall on to one of the wings *j*, and then on one of the wings *m*, during its passage to the eduction tube *n* at the bottom of the casing A. The said wings *m j* prevent the eduction valves *ll* of the measuring vessel from being tampered with by means of any instrument inserted into the eduction pipe *n*.

Claim.—The arrangement of the shifting weight *e*, the spring valves *ll*, and the pins *k k*, or the equivalents of said parts, with the double-chambered vessel B, substantially in the manner and for the purpose set forth.

No. 19,286.—WILLIAM BOYERS, of Mount Carroll, Ill.—*Improvement in Pumps*.—Patent dated February 9, 1858.—The cylinder A must be located at the bottom of the well, from which a tube D conducts the water upward to the delivery spout *a*. The two pistons G H are situated in the same cylinder A, one above the other, so that no additional diameter of well is required for employing two pistons instead of one. One piston is lifting while the other is descending, so that they move continually in opposite directions; from the sides of the pistons there projects, through slots *ll* in opposite sides of the cylinder A, ears or lugs *g f*, to which the small connecting rods *b c* are attached.

The inventor says: I do not claim the employment of two pistons working in the same cylinder.

But I *claim* the combination of the connecting chain *h* with the lifting rods *b c*, and with double pistons G H working in a single cylinder A, substantially in the manner and for the purposes specified.

No. 19,699.—JACOB O. JOYCE, of Cincinnati, Ohio.—*Improvement in Pumps*.—Patent dated March 23, 1858.—By operating hand lever C and imparting to it a vibrating motion, said motion is communicated to the valves *h* and *h*¹ by means of shaft B and arms D E. As the valve *h*¹ rises, it is closed by the action of the water on ball F, and the valve G is forced to the position represented in the drawings, the water passing through passage *l* into the air vessel and out through hose N.

Claim.—The arrangement of the circular chambers having their valves operated as described, with the wedge valve G and its inlet and exit openings; the whole being arranged in the manner and for the purpose set forth and explained.

No. 19,671.—JAMES B. ATWATER, of Brooklyn, N. Y.—*Improvement in Pumps*.—Patent dated March 23, 1858.—This is an arrangement of the plunger E and other parts of the pump, so that the water, as it is raised and pumped up, is made to act as an efficient packing, and the pump is thereby rendered very durable.

Claim.—The arrangement of the plunger E and cylinder A, with their respective enlarged portions c d , constructed and operating as and for the purpose set forth.

No. 20,442.—SILAS S. PUTNAM, of Boston, Mass.—*Improved Pump.*—Patent dated June 1, 1858.—The nature of this invention consists of a double acting pump, so arranged as to force the water from the eduction pipe or nozzle both at the upward and the downward stroke of a single pump rod.

Claim.—The single cylinder A, with its partition head D, in combination with the pistons M and N, operating in the manner substantially as set forth.

No. 20,787.—A. A. GENUNG, of Painesville, Ohio.—*Improvement in Pumps.*—Patent dated July 6, 1858.—The claim and engraving will explain the nature of this invention.

Claim.—Forming the plunger rod in two separate and distinct parts, and constructing said parts with the barbs D^1 and D^2 and raised surface E^1 ; also the form and location of the guides I^1 J^1 and K^1 , as specified, or their equivalents, by which said arrangement of parts, in combination with the motion of the wind wheel, I am enabled to apply the connecting and disconnecting principle to the plunger, for the purposes set forth.

No. 20,783.—GILBERT B. FARNAM, of Meriden, Conn.—*Improvement in Pumps.*—Patent dated July 6, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The use of the thimble E^2 , cap D^1 , guide rod m^1 , having a reacting spring N attached to its upper end and confined within the air-tight thimble, in combination with the valve L^1 and elastic diaphragm O, for the purpose of lifting and dropping said valve squarely from and to its seat, and at the same time protecting the guide rod and reacting spring attached thereto from the rust of the liquids acted upon by the pump.

No. 20,880.—GEORGE HIBSCH, of Buffalo, New York.—*Improved Pump.*—Patent dated July 13, 1858.—In this improvement there is placed at the lower end of a vertical cylinder A two screw wheels B B, similar to those used for screw propellers, one of a "right" and the other of "a left-hand thread," and by means of a gearing they are revolved in reverse directions, thereby causing a change of direction in the current of water; the action of the upper wheel B gives an increased impetus to these currents, which forces the water to the top of the cylinder, where it is discharged from the spout.

Claim.—The two screw wheels B B, constructed and operated as set forth, in combination with the bands C C, when arranged, in relation to the cylinder A, in the manner and for the purposes described.

No. 21,043.—HENRY ZENG, of Elizabethport, New Jersey.—*Improvement in Pumps.*—Patent dated July 27, 1858.—This improvement consists in the employment of a loose plate, or disk valve F, fitted to

and held in place in the upper part of the cylinder B by the piston rod D.

The inventor says: I do not claim broadly the employment of a water chamber in the upper part of the pump cylinder, nor broadly the employment of a valve therein.

But I *claim* the combination of a loose plate or disk valve F with the piston rod D, in the upper part of the cylinder B, substantially as and for the purpose shown and described.

No. 21,561.—FOSTER HENSHAW, of Washington, D. C.—*Improvement in Pumps*.—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: What I *claim* is, first, operating the piston by a curved slot, possessing the characteristic features described and arranged or formed in a vibrating handle, substantially as set forth.

Second. In the construction of lifting pumps the combination of three or more valves, arranged and operating as before described.

Third. The arrangement of washers I I, formed as specified, with the series of valves, substantially as and for the purposes set forth.

Fourth. Casting in the well pipe a series of steps, essentially as described.

No. 21,560.—SYLVESTER H. GRAY, of Bridgeport, Connecticut.—*Improvement in Pumps*.—Patent dated September 21, 1858.—This invention relates to an improvement in the ordinary hand reciprocating pump, and consists in a novel means employed for adjusting the handle relatively with the spout.

The inventor says: I *claim* having the upright or stand B of the pump handle provided with a claw or hook *a* at one side of its lower end, and having a bolt *c* pass through the lower part of the upright or stand, the bolt being provided with a curved or hook-formed head *d*, the above parts being used in connexion with flanch *a* on the upper end of the pump cylinder, as and for the purpose set forth.

I further claim, in connexion with the upright or stand B, the cover C, arranged as shown, so that it may be secured to the cylinder A by the upright or stand, as shown and described.

No. 21,801.—HENRY W. REGAN, of Cressona, Pennsylvania, assignor to Himself and GEORGE H. NEUER, of Harrisburg, Pennsylvania.—*Improvement in Pumps*.—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Combining with the water ways of a double acting pump, and air chambers divided by a partition *e*, so that each of the water ways shall have its own air chamber, but the water from each to be transmitted into a common chamber B before its exit from the pump, substantially in the manner and for the purpose set forth.

No. 22,201.—OLIVER W. PRESTON, jr., of Corning, New York.—*Improvement in Pumps*.—Patent dated November 30, 1858.—The pump cylinder A and its ports *p p* are of ordinary construction; the induction pipe *g* is closed and opened alternately to the two valve

chambers *r r* by ball valves *s s* of India-rubber, or other suitable material, which are actuated by the motion of the water. For closing the eduction pipes into the air chamber D a valve is employed of peculiar construction, to operate in a single chamber J, for both ports of the pump. This valve is made in two parts *t t*, which may be the halves of a ball valve, and these parts are connected by an elastic strip or band *u* of the proper length to allow the valve halves *t t* to reach from one valve seat to the other.

The inventor says: I *claim* the employment of the elastic band *u*, or its equivalent, serving to close the valves *t t*, and also as a means to keep said valves in place, substantially in the manner and for the purposes specified.

I also claim the construction of the piston B with the concave cleft plates *d d*, in combination with the disks or rings *b b* and double adjusting piston rod *c k*, all arranged substantially as and for the purpose set forth, at the same time disclaiming all other modes designed to effect similar purposes not substantially equivalent thereto.

No. 22,182.—A. L. KEEPORTS and GEORGE PALMER, of Littlestown, Pennsylvania.—*Improvement in Pumps*.—Patent dated November 30, 1858.—The nature of this invention consists in the combination of the fountain pump with the main stem, and in determining the point which is termed the true point at which to place the gain of leverage in operating the pump.

Claim.—The combination of the main pump *r* with the reservoir *a* and ascension pipe *b* elastic spring valve V, the whole arranged in relation to the proportions existing between the valves and pipes, operating as described and for the purposes set forth.

No. 22,165.—ASAHEL COOLEY, of Springfield, Illinois.—*Improvement in Pumps*.—Patent dated November 30, 1858.—A is the suction chamber; B B¹ the cylinder; C C¹ the air chamber; D D¹ the discharge pipe; E E¹ the piston; F F¹ its valve; G G¹ its lower valve; H the working lever; I I the ring around the discharge pipe; K K¹ the pitman for connecting the lever to the ring; and L a transverse section of the pitman.

The inventor says: 1st. I *claim* the parts E, G, F, *s*, and *c c c*, composing the piston and its valves, when combined with the hollow piston rod D, substantially as described.

2d. I claim the parts H, K, and I, constructed as described, when combined with the hollow piston rod D, for the purposes and in the manner described.

No. 19,981.—SAMUEL CHICHESTER, of Poughkeepsie, New York.—*Compound Air Pump and Gasometer*.—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A machine composed of a reservoir and two pumps, whose pistons, having their weight proportioned as described, are combined with a shaft K, or its equivalent, to which the power of a spring or weight, or other constant first mover, is applied by means of a cord or chain *f*, connecting them with a loose pulley on the said shaft; a

wheel M fast upon the said shaft; a stop for acting on the said wheel to stop the shaft, and a proper contrivance for engaging the loose pulley with, and disengaging it from, the shaft; the whole operating substantially as described for the purpose set forth.

No. 19,173.—WILLIAM F. HORTON, of Lockport, N. Y., assignor to WALTER K. MARVIN, of New York, N. Y.—*Improved Pump Bucket*.—Patent dated January 19, 1858.—D is a flange attached to nut E, and made the same size as flange B, both of these flanges being made convex on their sides, which are presented to the packing. E is a nut which passes over the screw F or shaft A, and made secure by the packing in its place. Fig. 2 represents a section of this bucket, showing the flanges B and D and their convexity, the packer C and its convexity, and the washer *d*.

The inventor says: I do not claim any single member of this bucket as new, either shaft, flanges, washer, or packing.

But I *claim* the peculiar arrangement of the flanges D and B with the corrugated washer *d* and packing C, when all are operated and secured in the manner described and for the purpose set forth.

No. 20,443.—EMMETT QUINN, of Trenton, N. J.—*Improvement in Pump Buckets*.—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the central diaphragm *e*, having its under edge concentric with the connecting pin of the rod and in contact with the bottom of its jaw, in combination with the valve V¹, constructed and operating so that the diaphragm receives the pressure on the valve and transmits it directly to the piston rod.

I also claim the combination of the dovetail recess in the metallic core with the plug, penetrable by nails, filling the same, for the more easy and economical attachment of the valve and packing, as described.

No. 21,756.—WILLIAM C. HIBBARD, of West Roxbury, Mass.—*Improvement in Centrifugal Pumps*.—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, in the construction of the fan wheel, the combination of the curved guide plate B with the vanes C arranged around a central open space, substantially as described, and working in connexion with the covers D and F and casing A, or such other equivalent devices as will co-operate with it upon the same principle.

I do not claim the spiral passage of discharge, constantly enlarging towards its exit to receive the accumulated discharge from the fan wheel, as that has before been used; but, in combination with the centrifugal pump, I claim the expanding outlet constructed upon the principle described, whether employed in combination with the spiral passage of discharge or applied directly to the fan wheel, substantially as described.

I also claim constructing the casing of a centrifugal pump, with a detached cover F, in combination with the fan wheel and fixed casing, substantially as described.

No. 20,060.—S. H. GRAY, of Bridgeport, Conn.—*Improved Pump Coupling*.—Patent dated April 27, 1858.—This invention consists in the employment of a curved or bow-shaped bar fitted underneath lugs attached to one of the parts to be connected, the ends of the bar resting on the other part, or on a flanch connected therewith, and in line with its centre; the bar being adjusted or set by means of a screw, so that the parts will be firmly secured together and allowed, while the bar is being set, to adjust themselves so as to fit snugly and water-tight.

The inventor says: I *claim* the curved or bow-shaped bar D fitted underneath the lugs or projections *ll* on the base A, and bearing on the flanch *b* of the cylinder B, the bar D being adjusted by a thumb-screw E, or its equivalent. It being understood that I do not claim any of the above named parts separately or in themselves considered, but the whole, when arranged and applied to a pump, for the specific purpose set forth.

No. 19,907.—EUGENE BELLAMY, of St. Louis, Mo.—*Improvement in Double Acting Force Pumps*.—Patent dated April 13, 1858.—The claim and engraving explains the nature of this invention.

The inventor says: I *claim*, first, the division piece V as constructed with top and bottom grooves *u*, fitting or corresponding flanches *u*¹, on the lower chamber and on the adjustable piece U, for the purpose set forth.

Second. I claim the cylinder B as constructed with flanches *b* fitting into grooves *d* in cylinder A, as a removable cylinder, easily removed, so that another can be replaced in case of breakage.

No. 19,680.—EZRA COPE and ISAAC W. BRAGG, of Cincinnati, Ohio.—*Improvement in Oscillating Pumps*.—Patent dated March 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventors say: We do not claim the movement nor the arrangement of any part of our pump separately considered.

But we *claim* the described arrangement of two single acting oscillating plunger pumps to oscillate upon a single trunnion placed between them, as shown, in combination with the employment and use of two or more induction ports in the one chamber of the trunnion, and two or more eduction ports in the other chamber of the trunnion, arranged to alternately communicate with corresponding ports or openings and passages in each cylinder, substantially as and for the purposes set forth in the specification.

No. 19,834.—WILLIAM DOUGLAS and BENJAMIN DOUGLAS, of Middletown, Conn.—*Improved Portable Pump*.—Patent dated April 6, 1858.—By a peculiar arrangement of pipes, air vessels and a suction and force chamber, so that a portable and efficient pump is obtained, and one that is especially applicable to watering gardens, syringing plants, washing windows, and like purposes.

The inventors say: We do not claim an elastic cover *d* placed over a chamber E in order to form a pump, for such device has been pre-

viously used, and pumps thus constructed are generally known as bellows pumps.

Nor do we claim any of the parts separately.

But we *claim* the pipes A F B and the chamber E provided with the flexible cover *d* and lever L, or their equivalents, and the cup M, the parts being constructed and arranged relatively with each other so as to operate as and for the purpose specified.

No. 19,180.—JOHN S. BARDEN, of New Haven, Conn.—*Improvement in Rotary Pumps*.—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim a rotary pump constructed with a cylindrical case, an annulus or ring piston, and a wing or slide either hinged or fastened firmly to the piston, and made to slide through a recess in the edge of the case, the said ring piston being moved around in the case by an eccentric placed within such piston; this principle of construction being common to the pumps or propellers described in the specifications of the United States patents numbered 13,979, 14,599, and 18,314, and also in the specifications of several foreign patents.

But what I *claim* is the above described application or arrangement of the reciprocating cylinder D, and its chamber C, with the case chamber B, the induction opening *d*, and the slide wing E, fixed permanently to and so as to vibrate with the ring piston, and slide up and down in accordance with other movements thereof, and have a water passage through it, as specified.

I do not claim making both the induction and eduction passages in the slide wing, as this is shown in the pumps described in the said patents 13,979 and 14,599.

But I do claim arranging one passage only in the slide wing, and the other in the reciprocating cylinder D, or through the case as specified.

No. 19,581.—WILLIAM PEIRCE, of New Orleans, La.—*Improvement in Rotary Pumps*.—Patent dated March 9, 1858.—In operating this pump the blades *o* fall of their own weight, and draw the water through the pipe *e*, discharging it at *f*. The projection *m* prevents the water from passing between the centre piece *a* and rim *d*.

The inventor says: I am aware that separate blades designed to be thrown out by centrifugal force, and having shoulders to arrest their movement, have been used in connexion with an eccentric inner surface. This I do not claim, as such pumps require rapid rotation to render them operative. I also disclaim the connecting of blades and arresting their motion by shoulders of the opposite blade when separately considered.

But I *claim* the united blades whose amplitude of motion is limited by shoulders of the opposite blades, as described, in combination with the projection *m*, in filling the space between rim *d* and centre-piece *a*, as specified.

No. 20,796.—ALANSON P. HOLLY, of Seneca Falls, N. Y.—*Improved Rotary Lamp*.—Patent dated July 6, 1858.—As represented in the engravings, a tight case A is shown having two cylindrical compartments *a a*, communicating with each other by an open space in the middle. An induction pipe G opens in the middle of the case from the bottom, directly beneath the communicating space between said compartments, and an eduction pipe H leads upward through the top of the case directly over said communicating space. Within these compartments are placed, respectively, two cylinders B C.

Claim.—A rotary pump provided with eccentric cylinders B C, having concentric portions *f f f f*, and corresponding depressions *g g g g*, and operating within the compartments *a a* of the case, substantially in the manner specified.

No. 21,318.—LEVI BURNELL, of Milwaukie, Wis.—*Improved Rotary Pump*.—Patent dated August 31, 1858.—By inspecting the engravings it will be perceived that the piston *f*¹ does not commence to recede into the cam box until after the piston *d*¹, which immediately succeeds it, has been thrust out to its extreme actuating position to take the place of the said piston *f*¹ in carrying forward the body of water in the piston-way, and also that the piston *d*¹ does not commence to recede into the cam box until the piston *f* has been thrust forward into its actuating position, and so on with the other pistons.

Claim.—Operating the double sets of radially sliding pistons *d d*¹ and *f f*¹ in directions at right angles to each other by means of the three-sided stationary cam *g*, the rotating cam box *b b*¹, and the cam yokes *c e*, arranged and operating with each other in the manner set forth.

No. 21,550.—M. R. CLAPP, of Seneca Falls, N. Y.—*Improved Rotary Pump*.—Patent dated September 21, 1858.—This invention consists of a cylindrical case A provided with internal teeth or cogs *b b*. A cylinder C of less diameter than the case revolves within the same on a shaft D, having bearings on each side. A circular portion is taken out of the side of C to receive the pinion E, which revolves on the journals *f* in bearings in the side plates *g g* of said cylinder. The teeth of the pinion correspond with and mesh into the internal gearing *b* and the cylinder C, being rotated in the direction indicated by the arrow; the pinion traverses the periphery of the case revolving in a counter direction to that of the cylinder.

Claim.—The combination and arrangement of the revolving toothed pinion E and cylinder C with the abutment K or its equivalent, cylindrical case A, and internal gearing *b*, substantially as and for the purposes set forth.

No. 21,632.—B. T. TRIMMER, of Rochester, N. Y.—*Improved Rotary Pump*.—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that annular pistons are and have been employed in rotary pumps, and the use of such I do not claim,

except in combination with the described devices for rendering their operation durable and efficient.

But I *claim* the construction of the triangular reciprocating butments L, working in grooves in the case *ff*, with arms clasping around the edge and into the annular recesses *d* of the loose piston G, to admit of the butment accommodating itself to eccentric action of the piston without materially obstructing the motion thereof, and at the same time packing against its seat *a* and the periphery of the piston by the pressure of the water on its double inclined surfaces *ik*, the parts being arranged and operating substantially in the manner described.

I also claim the combination and arrangement of the two cylinders or cases A A, cams I, pistons G, and butments L, with the chambers C E, and ports *b b* and *c c*, whereby the parts will operate conjointly for the purpose described, or either cylinder work independently of the other, substantially as set forth.

No. 21,904.—DANIEL J. ROGERS, of Magnolia, N. C.—*Improvement in Mode of Operating Pumps*.—Patent dated October 26, 1858.—The nature of this invention consists in the arrangement of the flexible frame, elevated rocking shaft, pendulous lever, elevated balls and pump pistons, in the relation to each other as shown.

Claim.—The arrangement of the intermediate auxiliary lever, flexible frame C D D E, pistons, elevated rocking shaft F, elevated weighted rod G H, and pendulous handle or lever I, in the relation to each other as shown and for the purposes set forth.

No. 19,276.—SIMEON WOOD, of Worcester, Massachusetts.—*Improvement in the Mode of Operating Pistons of Pumps*.—Patent dated February 2, 1858.—This invention consists in effecting the operation of the pistons of a system of pumps communicating with a receiver R by the rotation of wheels W W¹ W² over the heads of the piston rods when said rotation is produced by the turning of a horizontal weighted disk D resting upon the wheels. Power applied to the pulley *c* rotates disk D, which by its weight causes the rotation of the wheels and the consequent turning of the system about the discharge pipe *p*. As the wheels rotate they recounter the inclined planes *c* on the piston rods, depressing the pistons. The connexion of levers *l* and arms *i* causes the depression of one piston to lift the piston in advance.

The inventor says: I disclaim the actuating of pistons by the rolling of wheels over upward projecting inclined planes, separately considered, as not embracing the full scope of my invention.

But I *claim* the combination of the weighted disk D with the system of wheels W W¹ W², the floor *j*, and the protruding inclined planes or their equivalent, arranged and operating substantially as set forth.

No. 21,071.—R. G. HATFIELD, of Mount Vernon, N. Y.—*Improved Tube for Conveyance of Sound*.—Patent dated August 3, 1858.—The object of this invention is to collect an adequate volume of sound at distances from a tube and reflect the same through the tube in parallel lines of vibration, provision being made for properly reflecting the sound at the angles of the tube should any be required.

The inventor says: I am aware that implements, such as speaking trumpets and musical wind instruments, have been provided with flaring mouths or ends, for the purpose of projecting the vibratory lines of sound parallelly and the paraboloid, and approximate forms have been given the mouths of such implements; I therefore do not claim separately the mouth B, for that has been previously used.

But I *claim* the mouth B, in combination with the reflector E, the mouth and reflector being of paraboloidal or approximate form, and arranged relatively with each other, so as to operate substantially as and for the purpose set forth.

I further claim the plate F, placed in the elbow *b* as described, for the purpose specified, and also the combination of the mouth B, reflector E, and plate F, when arranged to act conjointly as described for the purpose set forth.

No. 21,898.—ROBERT NELSON, of New York, N. Y.—*Device for Elevating Water by the Combustion of Volatizable Hydro-carbon.*—Patent dated October 26, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim* elevating water by producing a vacuum within a proper receiver A by means of any hydro-carbon fluid, when so applied and arranged with suitable mechanism that the fluid will be volatilized in proper or described quantities and exploded by one and the same source of heat.

I further claim the particular means employed for volatilizing and exploding the hydro-carbon fluid, to wit: the box M provided with a lamp N and valve O and attached to the box G, into which the tube J from the box or receptacle I passes, the tube J being provided with a cock L, which, as well as the valve O, is operated by the movement of a slide *g*, substantially as shown and described.

No. 21,928.—CALEB RIDER, of Plymouth, Mass., assignor to GEORGE T. McLAUTHLIN, of Boston, Mass.—*Improvement in Water Metres.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: What I *claim* as my invention is the union or combination of the following elements or features, viz:

1st. Making the inlet aperture of the tub and the outlet apertures of the wheel of the same aggregate area.

2d. Forming the buckets of two planes or curves, the lower one making an angle of 27° , or thereabouts, with the plane of rotation of the wheel, and 90° with the float or upper portion of the bucket.

3d. Making the tub circular and of sufficient height and diameter to allow free action of the water therein, and causing the water to enter from the flume on a tangent thereto, whereby the inlet current is relieved from immediate and direct contact against the floats and buckets of the wheel, and caused to spend its force on the water already accumulated in the tub, and through that upon all the floats and buckets of the wheel itself, the whole forming a water meter, arranged and operating substantially as described.

No. 19,214.—FREDERICK SMITH, of Buffalo, N. Y.—*Improved Water Wheel*.—Patent dated January 26, 1858.—By this improvement the water enters the scroll and acts with its full percussive force upon the radial buckets; then glides smoothly into spiral buckets and gives a full reaction force, aided by the pressure of air above, which is induced to enter the bucket case through a hollow central shaft by the suction of the buckets and a vacuum existing between the water and the hollow shaft.

The inventor says: I do not claim, broadly, admitting air into the bucket case to secure the full percussion, reaction, and free discharge of the water, irrespective of the peculiar manner in which the air is introduced, and the peculiar construction of wheel in connexion with which this principle is employed.

But I *claim* the peculiar construction, arrangement, and combination of the hollow perforated vertical shaft C, radial and spiral buckets A B, and the scroll and cylinder case D E, whereby the two actions of the water, to wit: the full percussion and the full reaction are employed in the same wheel without one interfering with the other, and whereby also a continuous draft of air is admitted into the bucket case above the water, so as to fill the vacuum or space between the water and perforated shaft, and the force and gravity of the water in its reaction thereby greatly increased and a free discharge secured, substantially as set forth.

No. 20,187.—JESSE BARTOO, of East Aurora, N. Y.—*Improved Water Wheel*.—Patent dated May 11, 1858.—The nature of this invention consists in the employment of a cast-iron segment H, an adjustable band D, and semi-cylindrical cap C, in combination with a water wheel for the purpose of adjustability and the protection of the wheel against unequal wear and waste of water.

Claim.—The iron segment H in combination with the adjustable band D and semi-cylindrical cap C, for the purposes substantially as set forth.

No. 20,234.—ALONZO WARREN and ELIJAH DAMON, jr., of Wareham, Mass.—*Improvement in Water Wheels*.—Patent dated May 11, 1858.—This invention consists in the employment or use of auxiliary buckets *l* attached to the under side of the wheel and arranged relatively with the space or leak between the lower rim of the wheel and the scroll, whereby the water or leakage water as it escapes is made to impinge on auxiliary buckets, and thereby assist in propelling the wheel. It also consists in using, in connexion with the auxiliary buckets, certain means for preventing the upward escape of water between the upper disk of the wheel and the scroll, so that all the waste water will be rendered available.

The inventors say: We *claim* the supplementary or auxiliary buckets *l* attached to the under side of the lower rim *m* of the wheel, and arranged relatively with the edge of the rim and plate *k*, as shown, for the purpose set forth.

We further claim, in combination with the auxiliary buckets *l*, the annular L shaped plate C and D attached to the scroll A, in con-

nexion with the ledge *c* on the upper surface of the disk *b* of the wheel, the whole being arranged to operate as and for the purpose set forth.

No. 20,200.—J. H. FAIRCHILD, of Jericho, Vt.—*Improvement in Water Wheels*.—Patent dated May 11, 1858.—This is an improvement in that class of water wheels in which the water is made to act upon the wheel by means of atmospheric pressure or suction, produced by a vacuum formed in a draft below the wheel. It consists in the peculiar construction of the wheel and gates in connexion with the draft, whereby the wheel is exceedingly simple.

The inventor says: I do not claim, separately, the draft tube *F*, for that has been previously used.

But I *claim* the tube *F* in combination with the wheel formed of the screws *D D* placed on a shaft *B*, and working within the tubular projections *a a*, the whole being arranged to operate as described.

I also claim, in combination with the wheel and draft tube, the gates *E E*, arranged as described.

No. 20,335.—JOHN CUSTER, of Finley, Ohio.—*Improvement in Water Wheels*.—Patent dated May 25, 1858.—The wheel and chute are arranged in such a manner that the wheel is capable of being raised and lowered as circumstances may require, and the water properly directed into the buckets at any point or portion of the wheel within the range of its adjustment.

The inventor says: I do not claim, broadly, so forming the buckets of horizontal water wheels that the percussive force of the water, as well as that caused by gravity, are obtained, for buckets have been devised and arranged in various ways to accomplish this purpose.

But I *claim*, first, placing the plate *A* loosely on the shaft *B*, and rendering the same adjustable thereon by means of set screws *b* or their equivalents, in connexion with the adjustable mouth *F*, in the sluice *D*, the parts being arranged substantially as shown and described, for the purpose set forth.

Second. The buckets *C* constructed of the form shown and described, so that the percussive force of the water is obtained, and also the force produced by its weight, as it passes from the buckets, and the water at the same time allowed to pass in a very direct and uninterrupted manner through the buckets, so as not to occasion much loss of power by friction.

No. 20,456.—JOHN TYLER, of West Lebanon, N. H.—*Improvement in Water Wheels*.—Patent dated June 1, 1858.—The nature of this invention will be understood by the claim and engravings.

The inventor says: I *claim* combining an elevated air tight cap with the casing and shaft of a water wheel whose buckets descend from a close head for the purpose of enabling said wheel to be operated without loss of power when entirely immersed in back water, and also for the purpose of furnishing an independent upper bearing to the shaft of said wheel of so firm a character as to enable said wheel to be connected directly to the machinery to be propelled thereby, without any auxiliary shafting or journal boxes, substantially as set forth.

I also claim combining the flanchd box of a sliding gate with the mouth of the water way of my improved water wheel, for the purpose of enabling a number of said wheels to be readily bolted to a wooden water tube or trunk, and to be operated independently of each other, substantially as set forth.

No. 20,921.—DAVID K. KRAATZ, of Ephrata, Pa., assignor to ISAAC S. ROLAND, of Bareville, Pa.—*Improvement in Water Wheels*.—Patent dated July 13, 1858.—In this invention when the water first strikes against a bucket it will drive a current of air violently through the aperture in the flanch *a*¹ at the upper end of the bucket, which will produce a pulsation of the atmosphere within the air chamber above the wheel of sufficient force to drive the dead water out from the spaces between the preceding bucket of said wheel.

Claim.—The perforated flanch *a*¹ which closes the spaces, between the upper ends of the series of buckets *d* when the perforations in the said flanch are made to open into a close air chamber, substantially in the manner and for the purpose set forth.

No. 21,578.—ALPHA SMITH, of Sauquoit, New York.—*Improved Water Wheel*.—Patent dated September 21, 1858.—The nature of this invention consists in having the buckets of the wheel in curved form and provided with ledges or projections, so that each individual bucket will virtually consist of a series of buckets extending from the periphery to the centre of the wheel, and against which the water will act successively in its passage through the wheel, and a corresponding relative speed observed between the water and the wheel at all points, whereby the desired effect is obtained.

Claim.—Constructing the buckets *C* with ledges or prominences *d*, the buckets being curved and fitted between the shells *a* *d*, which form the body of the wheel *A*, and arranged relatively therewith, substantially as and for the purpose set forth.

No. 21,753.—W. H. HARBAUGH, of Piqua, Ohio.—*Improved Water Wheel*.—Patent dated October 12, 1858.—The nature of this invention consists in the peculiar construction of buckets for water wheels, in the operation of which the percussive and reactive force of the water will be combined and made to act near the outer periphery of the wheel, and thereby secure greater leverage and more power from a given quantity of water than is obtained by water wheels in ordinary use; and also in the employment of a projecting annular float or rim in combination with said peculiar form of bucket, so that the wheel will be partially supported by the force of water acting beneath the rim and the friction upon the shaft upon which the weight of the wheel rests will be greatly diminished.

The inventor says: I *claim*, first, the peculiar arrangement of the bucket *E* in combination with the projecting annular float *B*, for the purposes specified.

Second. I claim the peculiar form of the bucket *E*, with reference to the percussion plate *a*, all arranged and operating in the manner and for the purposes set forth.

No. 21,757.—JOHN P. HOYT and DAVID W. HOYT, of Lumber City, Pennsylvania.—*Improved Water Wheel*.—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination of a wheel as constructed with the casing as constructed, when the two are so arranged that the water will be received on the broad backs of the buckets, and be discharged by their inclined fronts between the casing and the shaft of the wheel, in the manner specified and for the purpose set forth.

No. 22,282.—JOHN H. FAIRCHILD, of Jericho, Vermont.—*Improvement in Water Wheels*.—Patent dated December 14, 1858.—This invention relates to an improvement in a water wheel for which letters patent were granted to the above named inventor, May 11, 1858. The object of this invention is to simplify the above mentioned patented wheel without departing from the principle of its operation, or in the least degree detracting from its efficacy, and at the same time regulate in a more perfect manner the supply of water thereto, so that the speed of the wheel may be made uniform, or constant with a varying supply of water.

The inventor says: I *claim* the single wheel D in combination with the draught tube F, said wheel being placed within the penstock A, and arranged either horizontally or vertically with said tube substantially as and for the purpose set forth.

I also claim the annular gate H, placed within the sliding frame G in connexion with the adjustable plate J, arranged substantially as shown to operate as described.

No. 21,791.—ALDEN WHITMAN, of Auburn, Me.—*Improved Water Wheel and Chute*.—Patent dated October 12, 1858.—A is a shaft carrying the wheel B, *c c c* are its buckets (the number for a wheel depend upon its diameter) arranged in order as shown in the engravings, so that the interstice shall be of sufficient extent for the water to escape without any resistance to the wheel; D is an inclined tapering spout conducting the water in a direct course upon the buckets on the under side of the wheel and in a direct line with its travel on the double bucket curving concentrically with the same about the length of one bucket at the aperture of the discharge E.

Claim.—The peculiar form of the bucket in conjunction with the corresponding form and relative position of the spout thereto, in the manner described and for the purpose set forth.

No. 19,115.—CHAUNCEY B. WHITNEY, of Ithaca, N. Y., assignor to PHILLIP CASE, of Ithaca, N. Y.—*Improved Chute for Water Wheels*.—Patent dated January 12, 1858.—*a* in fig. 3 is a transverse section of the flume or water chest. In it *L L* is the flanking or sides, and *M M* the inner flanking. *N* is the shaft and connected with it are dotted lines representing the hub or centre of the water wheel, the buckets and rims of the wheel; *b* is a vertical section of the flume at right angles to the one above named, in it *O* is the entrance for the water, and the lines *P P*, continued from the entrance, show the concoidal or screw-shaped top of the flume.

Claim.—The double helix or scroll or curved funnel-shaped flume or water chest, when combined with the described bucket in the said water wheel.

No. 20,437.—JOHN McCARTY, of Catharine, N. Y.—*Improved Horizontal Water Wheel.*—Patent dated June 1, 1858.—The bucket F in this water wheel is so formed that the water is retained or allowed to act sufficiently long against the bucket, so that they may receive its full effective force, and is then discharged at the centre of the wheel. Four chutes K K K K are employed, arranged relatively with the bucket and wheel, so that the water will be properly presented or conducted to the bucket, so as to act in the most effective manner.

The inventor says: I do not claim broadly the operating of all the gates simultaneously. I am aware that many horizontal centre vent wheels have been devised, and I am also aware that four chutes have been employed to let the water on the wheel at opposite points of its shafts for the purpose of preserving the equilibrium of the wheel. I, therefore, do not claim, separately, the chutes K, nor do I claim, broadly, a centre vent or centre discharge wheel.

But I *claim*, 1st. The buckets F, constructed of the form specifically as shown and described for the purpose set forth.

2d. I claim, in combination with the buckets thus formed, the four chutes K, arranged as shown and described.

3d. I claim the manner of operating the gates L, the same being curved and attached to the levers M as shown, and connecting the levers M with the rising and falling frame O, the parts being arranged as described for the purposes set forth.

No. 20,350.—JAMES B. JOHNSON, of San Francisco, Cal.—*Improvement in Wind Wheels.*—Patent dated May 25, 1858.—This invention consists in the peculiar means employed for giving a uniform speed to the wheel, during variable degrees of velocity of the wind, and also in a peculiar means employed for stripping the wheel when desired.

The inventor says: I do not claim operating the adjustable sails *i* by means of the sliding head or plate I, actuated by a governor through the medium of the levers as shown, for this has been previously used.

Nor do I claim the manner of attaching the rotating plate C to the framing A, for this has also been previously done.

But I *claim* constructing the wind wheel G with stationary and adjustable sails *h i*, substantially as and for the purpose as set forth.

No. 20,336.—WILLIAM H. DERRICK, of Stockton, Cal.—*Improvement in Wind Wheels.*—Patent dated May 25, 1858.—The object of this invention is to render the wind wheel, by a very simple means, self-regulating and self-adjusting, so that the wheel will rotate with equal or nearly equal speed during variable degrees of velocity of the wind, or made to veer in accordance with it.

Claim.—The movable or traversing vane G with weight H attached, in combination with the permanent or stationary vane F arranged as shown, or in an equivalent way to operate as and for the purpose set forth.

No. 19,383.—GEORGE W. SHAW, of Thompson, Conn.—*Improved method of furling the Sails of Wind Wheels*.—Patent dated February 16, 1858.—This wind-mill is formed of vertical sails E placed between two horizontal frames B and C. They are set angularly, so that the wind may enter the frames between the sails and propel it by reaction and passes out between them, the wind as it leaves the wheel acting simultaneously upon the greater portion of the sails.

The inventor says: I *claim* attaching the sails E to the frames B C, substantially as shown, whereby the wind is allowed to pass between the sails and within the wheel, and to act against the sails as it passes out from the wheel.

I further claim attaching the upper ends of the sails E to rollers *h*, which have cords *i* passing around them at one end, the ends being connected to a plate F placed on the shaft A, and resting upon the spring G, the above parts being used in connexion with the movable frame C, whereby the area of the sails may be increased or diminished as desired, for the purpose set forth.

XII.—LEVER, SCREW, ETC.

No. 19,830.—W. A. CLOUD, A. L. HATFIELD, and C. H. BURDICK, of Fremont, Ohio.—*Improvement in Clasps for fastening Bags*.—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The peculiar construction of semi-circles *a a*, with thin edge to prevent slipping, and hinge B at one side, clasp *c* and catch *d* on the other side, the peculiar construction of lever *f* so as to be operated upon by the pressure of the bag when fastening, and thumb-piece *h*, by which it is easily opened, the whole being arranged and combined in the manner and for the purposes set forth, or in any other manner substantially the same.

No. 21,520.—GEORGE H. SMITH, of Glenwood, Iowa.—*Improvement in Spring Balances in combination with a Knife*.—Patent dated September 14, 1858.—This invention consists in placing a spring balance within the handle of a knife, such as is used by butchers and retail dealers in articles that are cut and sold by weight, so that articles may be cut and weighed by one and the same implement, the work being done equally as accurate and more expeditiously than by the usual mode.

The inventor says: I do not claim the knife.

Nor do I claim the abstract, or when separately considered, a spring balance.

But I *claim*, as a new and useful article of manufacture, a knife having a spring balance inserted in its handle, as and for the purposes set forth.

No. 19,437.—JOHN MCMURTRY, of Lexington, Ky.—*Improvement in Cotton Bale Hoops*.—Patent dated February 23, 1858.—The nature of this invention will be understood by examining the claim and engravings.

The inventor says: I *claim*, first, splitting one end of a cotton bale hoop so that it may be contracted or expanded in width as may be required, in order to effect the locking of the hoop around the bale without slack, substantially as set forth.

Second. The combination of the split and shouldered end of the cotton bale hoop with the slotted end, in the manner described and for the purpose set forth.

No. 21,517.—ALBERT C. RICHARDS, of Newton, Conn.—*Improvement in Clasps for Cotton Bale Hoops*.—Patent dated September 14, 1858.—

This invention consists in a peculiar mode of clasping or tying cotton bale hoops by the use of three rings. The hoop is made of unusually thin hoop iron. Three rings A C C are employed, one of these rings is larger than the other two. They may be made of malleable cast iron and very small.

Claim.—The use of the three rings A and C C in combination with the hoop B, as a cheap and convenient cotton bale hoop, substantially as described.

No. 21,305.—JOHN AGNEW, of Columbia, S. C.—*Improvement in Coupling for Bale Hoops*.—Patent dated August 31, 1858.—This invention consists in having a small metal casting, with a longitudinal slot in it of double taper form, and having the ends of the hoops doubled or bent over in loop form, so that the same may bind or become wedged in the casting, forming a perfect coupling or fastening.

Claim.—The socket A, provided with the double taper opening α , in connexion with the loops $b\ b$ at the ends B B of the hoops, substantially as and for the purposes set forth.

No. 19,709.—DAVID G. OLMSTEAD, of Vicksburg, Miss.—*Improvement in Cotton Bale Ties*.—Patent dated March 23, 1858.—This invention consists in a clasp A, made of cast metal, and a band B, made of thin metal, so that it will bend easily. The band is bent at right angles to its length, and inserted through the open space of the clasp A; the band is then carried around the bale or package, and passed through the clasp, where it is secured by the wedge C.

Claim.—The clasp A and wedge C, arranged and operating in combination with the band B, with its bent extremities $\alpha\ \alpha$, substantially in the manner and for the purpose specified.

No. 19,490.—FREDERICK COOK, of New Orleans, La.—*Improvement in Metallic Ties for Cotton Bales*.—Patent dated March 2, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* the friction clasp or buckle for attaching the ends of iron ties or hoops for fastening cotton bales and other

packages, so that the ties are prevented slipping by the friction against a certain portion of the buckle.

I claim also the looping of the ends of iron ties or hoops or bales into a buckle, by the form of which they are prevented slipping by friction, when the strains of the expansion of the bale comes on the ties. The ends of the hoops or ties not being attached together in any way, the connexion being formed by a distinct buckle or friction clasp.

I also claim the described "slot" cut through one bar or clasp, which enables the end of the tie or hoop to be slipped sideways underneath the bar in clasp, so as to effect the fastening with greater rapidity than by passing the end of the tie through endways.

No. 20,311.—P. C. INGERSOLL, of Green Point, N. Y., assignor to Himself and H. F. DOUGHTY, of said Green Point.—*Improvement in Securing Metallic Bands on Cotton Bales*.—Patent dated May 18, 1858.—This invention consists in having a metal plate provided at each end with an opening or recess, through which the two ends of the hoop pass, and having a batten riveted to the outer side of the plate; this batten being recessed at its outer ends on its face side to receive the ends of the hoop, which are bent so as to pass in those recesses, and so keep the hoop from moving.

Claim.—The batten B, pivoted to the plate A, provided with openings *a a*, the button B being provided with recesses *c* at its ends, and the whole arranged as and for the purpose specified.

No. 21,190.—WILLIAM FIELD, of Providence, R. I.—*Improvement in Metallic Bands for Binding Bales*—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not confine myself to the staple-shaped key, as shown in the first described class, as two single keys may be used, and produce the same effect in preventing the loops from slipping.

I claim first, arranging the band over the clasp and the ends of the band, which are bent under to form the loops by which the band is connected with the clasp, so that the ends lay above the clasp, and the band, covers and protects both of these ends, and also the clasp, substantially as described.

Second. Connecting the looped ends of the band with the clasp by means of a double key or its equivalent, arranged substantially as described, so that the turning of the key prevents the loop from slipping as described.

Third. Arranging the key or keys on the under side of the band and clasp, for the purpose described.

No. 21,360.—GEORGE W. PENNISTON, of North Vernon, Ind.—*Improvement in Machine for Tightening and Securing Metallic Bands for Cotton Bales, &c.*—Patent dated August 31, 1858.—The object of this invention is to produce a machine which will, with the greatest ease and facility, secure metallic and other hoops for cotton and hay bales, &c.

Claim.—The construction of a hoop tightener and holder in connexion with doors D D, and arms B B, and lever A, constructed as described, or any other construction substantially the same, and which will produce the same results.

No. 21,272.—INCREASE C. PLANT, of Macon, Ga.—*Improvement in Metallic Bands or Ties for Bales, &c.*—Patent dated August 24, 1858.—The nature of this invention consists in constructing a bale tie or lock of cast or wrought iron, or copper, or other metal, to be used in connexion with iron or other metallic bands for baling cotton or other articles in such a manner that the two ends of the band may be easily connected, and as easily loosed and shortened in repressing the bale, without injuring the fastening.

Claim.—The bale, tie, or lock, made open at one edge and both ends, so that the band may be inserted in it edgewise, in the manner substantially as described.

No. 21,848.—ALBERT C. RICHARD, of Newtown, Conn.—*Improvement in Clasps for Metallic or other Flexible Bands.*—Patent dated October 19, 1858.—This clasp consists of the frame *a* and ring *b*, made of cast iron. Frame *a* has a recess in which ring *b* can be easily inserted, the inside of one of the ends slightly inclined; the length or longitudinal diameter of the recess in frame *a* is such, that when the end of the band *c* is inserted in it, and against the inclined surface at *c*, and ring *b* placed in contact with the band with one end, while the other end of ring *b* rests against the opposite extremity of the recess of frame *a*.

The small ring *f* is made of cast iron, and is employed for combining the frame, ring *b*, and band at one end.

Claim.—The use of frame *a*, and ring *b*, in combination with band *c*, substantially as described.

No. 22,372.—JAMES C. MCGREW, of Smithfield, Ohio.—*Improvement in Machines for Elevating Hay.*—Patent dated December 21, 1858.—The nature of this invention consists in arranging a platform, on the sheers by which the hay or fodder is hoisted, for the hay and fodder to slide upon, as it is elevated to the top of the stack or rick being built or formed.

Claim.—In the described machine for elevating hay, grain, fodder, &c., the arrangement of the bar a^3 , and inclined platform, $a^1 a^2$, with the sheers and hoisting fork, all substantially as described, for the purposes set forth.

No. 19,087.—JAMES H. GILL, of Mount Pleasant, Ohio.—*Improvement in Hay and Straw Elevators.*—Patent dated January 12, 1858.—This invention consists: 1st. In hinging the base of the boom which sustains the hoisting mechanism to a strong portable carriage, and combining with it an adjustable apron or fender, which not only assists in sustaining the boom in an inclined position, but also serves to protect the bundles of hay and straw as they are elevated. 2d. In giving support to the stationary section of the fender, retaining the sliding

section in the position as it is raised, and keeping it off from the stack.

The inventor says: I do not confine myself to the precise method as described, of connecting the fender, as many other equivalent ways can be used to accomplish the same object.

I *claim*, 1st. The combination of the inclined hoisting boom hinged to the supporting frame with the adjustable fender, arranged as described for the purpose set forth.

2d. The combination of the hinged forked feet *e*, with the sliding section of the fender, for the purpose described.

No. 19,939.—GEORGE MARTZ, of Pottsville, Pa.—*Improvement in Machine for Hoisting and Dumping Coal*.—Patent dated April 13, 1858.—In practical operation two of these machines are combined and arranged in such a manner that the car of one shall be ascending, while the car of the other is descending. The tilting bar *J* is yielding, so that in case the engine is reversed just a moment after the load of one car has been dumped, and before said car has passed down below the tripping bar or plate, this car shall have a chance of rising without breaking the machine.

The inventor says: I *claim*, 1st. The employment, in combination with the car *F*, and dumping chute *I*, of the peculiar arrangement of mechanism consisting of the sliding gate *B*, pivoted platform *E*, confining catches *T*, *g g*, trip bar *H*, tilting or dumping stop bar *J*, all substantially as and for the purposes set forth.

2d. The employment of the tilting or dumping stop bar *J*, whether yielding or stationary, above the front of the platform *E*, substantially as and for the purposes set forth.

3d. Having the sections *d d* of the railroad attached to the platform, so that they may rise and come in contact with the wheels of the car and cause the car to assume a proper lifting position, and also serve for lifting the car, and likewise for holding it from forward or backward play while tilted or dumped, substantially as and for the purposes set forth.

No. 20,455.—GEORGE THOMPSON, of Cincinnati, Ohio.—*Improvement in Machinery for Hoisting and Lowering Goods, &c.*—Patent dated June 1, 1858.—The goods to be raised are placed on platform *C*, and if the load is too heavy to be hoisted with the crank *H*, the pinion and shaft *M* is brought in gear, the crank placed on the pinion shaft which now becomes a driver capable of hoisting a very heavy weight. This machine can be used for persons going up and down stairs.

The inventor says: I *claim*, first, the use of windlass *H*, one or more, whether parallel or tapered, corrugated or grooved in combination with the travelling frame, for the purpose set forth.

Second. I claim the use of the brake *P*, or its equivalent, for the purpose substantially as described.

No. 19,250.—AUGUSTUS HUNT, of Philadelphia, Pa.—*Improvement in Apparatus for Hoisting Ice*.—Patent dated February 2, 1858.—The claim and drawings explain the nature of this invention.

The inventor says: I *claim*, first, the employment, for raising and delivering ice, of two cradles, so arranged in connexion with any suitable driving apparatus, that one shall ascend simultaneously with the descent of the other, said cradles being so constructed and arranged as to retain and deliver the ice without the aid of assistants.

Second. Forming that portion of the cradle on which the ice rests with an incline, and combining that incline with the retaining and releasing levers K and K¹, or their equivalents, for the purpose specified.

No. 20,170.—REUBEN PACKARD, of Rockland, Maine.—*Improvement in Hoisting Machines*.—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The circular plate or its equivalent, arranged substantially as described, in order that it may be turned easily and held in any desired position by pawls or their equivalents, for the purpose of sustaining any combination of mechanical powers constructed thereon for drawing or lifting heavy weights or their equivalents.

No. 22,008.—DANIEL W. BARR, of Lancaster, Pa.—*Improvement in Hoisting Machines*.—Patent dated November 9, 1858.—The object of the central pulley J is to keep the burden in the centre of the hatch-way while hoisting by means of the double pulleyed hoisting tackle K, and drums or attachments, the ropes keep spread and prevents that twisting so annoying by the use of the ordinary means employed, and to the saving of time and muscular force.

Claim.—The central pulley J, bevelled cog wheels and drums C, side wheels H I, double pulley hoisting tackle K, slide door T, drum and crank P, with cord N, with the whole combined and arranged substantially as described, for the purposes set forth.

No. 21,837.—WILLIAM KEARNEY, of Newark, New Jersey.—*Improvement in Hoisting Jacks*.—Patent dated October 19, 1858.—The nature of this invention consists in combining a screw shaft with a right and left thread, two concave worm wheels, two worms with different threads, the journals of the worms working in eccentrics, two nuts or boxes, and an adjustable crank by which the speed and power of the jack may be varied as in use it may be required.

Claim.—The combination of the screw shaft, two or more concave faced worm wheels, two or more worms of different threads, the journals of the worms in eccentrics, two nut cases or boxes with an adjustable crank, in the manner and for the purpose specified.

No. 20,372.—ALBERT C. RICHARD, of Newtown, Connecticut.—*Improvement in Lifting Jacks*.—Patent dated May 25, 1858.—This invention consists of a portable lifting jack, by which railroad cars or other heavy bodies may be raised and traversed in every direction, whether upon a horizontal plane or an inclined one.

Claim.—The standard A, provided with screws and pinions, in combination with the traverse bar D and the adjustable friction rollers M, the whole being constructed substantially as set forth.

No. 21,342.—JOEL C. JACKSON, of Rochester, New York.—*Improvement in Lifting Jacks*.—Patent dated August 31, 1858.—The nature of this invention consists in a certain construction of jack, whereby with the use of certain adjuncts thereto a railway car or any similar body may be raised to any desired height with a single lift or operation of the machine.

Claim.—The arrangement of the screw *c*, slides *s s*, and nut *N*, in combination with the bar *B* or fork *T*, in the manner and for the purpose substantially as described.

No. 21,107.—AMOS JONES, of Lebanon, New Hampshire, assignor to Himself and SOLON M. DAVIS, of said Lebanon.—*Improvement in Mechanical Jack*.—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Constructing an improved jack by combining a doubly toothed shank with a suitable head-piece *A*, when the teeth of said shank are arranged in such a manner as to furnish the necessary fulcrum and catches for the operating lever *C* in the performance of its appropriate functions, substantially as set forth.

No. 20,624.—GEORGE E. CLAY, of Stillwater, Minnesota.—*Improvement in the Mode of Applying Lever Power*.—Patent dated June 22, 1858.—The nature of this invention consists in so gearing the vibrating arms *G H* to which the ratchet pawls are attached together by a series of cog wheels *F*, so as to enable a continuous rotary motion to be transmitted to a shaft *A* by the vibratory or oscillating movement of a lever on which the motive power is first exerted.

The inventor says: I am aware that oscillating spring fall arms or bars and ratchet wheels have heretofore been employed for giving a continuous motion to shafts, and I do not therefore lay claim to these parts.

But I *claim* the combination of the oscillating arms or bars *G H*, secured to the pinion *E*, and cog wheel *F*, which turn loosely on the horizontal shaft *A*, and pinions *K L*, and cog wheel *M*, for gearing the two arms together, substantially in the manner and for the purpose described.

No. 21,822.—T. J. DAVIS, of Schroepell, New York, and J. B. WARREN, of Volney, New York.—*Improvement in Machines for Lifting Heavy Weights*.—Patent dated October 19, 1858.—In figure 1, *A* is the inclined plane or way for the weight to slide on; *B* the sliding beam with alternate ratchets in it; *C* the bent levers acting as palls falling into said ratchets; *D* the lever to which the power is attached; *E* is the foundation for supporting the inclined plane; *F* the tongue working in a groove on the under side of the beam *B*; *a* the fulcrum of the power lever; *C C* the fulcrum to which are attached the pall levers *C*; *d* the screws for securing a longer arm to the lever *D*.

In figure 2, *A*¹ is the foundation; *B*¹ the ratchet wheel; *C*¹ the pall levers; *D*¹ the power lever.

Claim.—The combination of lever *D* operating horizontally, and lever *C* moving parallel to each other in a line with the fulcrum, and

catching alternately into ratchet B as they are made to reciprocate by the vibrations of lever D, as described and set forth.

No. 19,291.—JACOB C. GEISENDORFF, of Cincinnati, Ohio.—*Improvement in Lubricating Apparatus for Journal Boxes for Railroad Cars.*—Patent dated February 9, 1858.—A represents the end and A¹ the journal of the axle; B is the grease box; C is the step or journal bearing. Secured in the bottom of the box B by cleats *b* is a frame D, which is at each end provided with a pair of cheeks *d*, which confine to a vertical point the journal boxes E of a suitable lubricating roller F, by means of the spring G the summits of the boxes E E are held strongly against the axle A A¹; H is a ratchet wheel mounted on the front end of the roller shaft *f*; I I are spring pawls which, being hinged to the frame D, engage with the ratchet wheel H on opposite sides.

Claim.—The guards E, springs G, ratchet wheel H, and pawls I I¹, or substantially equivalent devices, in the described combination with the lubricating roller F and axle A A¹, for the purposes set forth.

No. 20,331.—JOHN W. COCHRAN, of New York, N. Y.—*Improvement in Lubricating Car Axles.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The arrangement of the rollers *h h* upon the coil *e*, said coil having within it a shaft or rod of metal or wood with the rods *d* attached to studs *c*, in their relation to each other and to the box and axle, as and for the purposes set forth.

No. 20,406.—JOHN W. COCHRAN, of New York, N. Y.—*Improvement in Lubricating Car Axles.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The elastic rings *c* upon the roller *b* serving the double purpose of elastic bearing and oil conductors, as set forth.

No. 20,674.—SETH H. WHITMORE, of Cincinnati, Ohio.—*Improvement in Oil Cups for Lubricating Engines.*—Patent dated June 22, 1858.—F is an axial stem capable of being partially rotated by means of a lever J, and provided with two collars G H which fit respectively the top of the upper floor and the bottom of the lower floor, the collars occupying the relation of valves and the floors that of valve seats.

Claim.—The combined arrangement of the external valves G and H mounted on a central stem F, and operating as described in connexion with the globe A B C D F.

No. 19,108.—JOHN B. TOM & STEPHEN D. TUCKER, of New York, N. Y.—*Improved Method of Lubricating Journals, &c., by a Pendulum Valve Arrangement.*—Patent dated January 12, 1858.—A is a reservoir into which the lubricating material is put, (see figures 1 and 2.) B is a cock having a chambered plug or cylinder C. This plug or cylinder has one or more chambers, which, as the plug revolves, connect alternately with the reservoir A and the outlet passage D. On the stem of the plug are the worm wheel E, running loose, the ratchet wheel F, made fast, and the crank handle G, also made fast. To the

worm wheel E is attached pawl H, which drops into and carries forward the ratchet wheel F and the chambered plug C.

The inventors say: We do not claim any peculiar mechanism for moving the chambered plug or cylinder, as that may be done in various ways; but what we *claim* as novel and useful is the chambered plug or cylinder moved by mechanism for rendering it automatic or self-operating or any or all modifications of the same or their equivalents, for the purposes already set forth, substantially as described.

No. 19,551.—WILLIAM DILLER, of Lancaster, Pa.—*Improvement in Lubricating the Axle Boxes of Carriage Wheels*.—Patent dated March 9, 1858.—The box A has a series of oblique or inclined grooves B, formed in its inner side, extending entirely around the inner surface, and placed at such distances apart that the portion of the arm C of the axle around which one groove will pass over as the box rotates, will adjoin or nearly adjoin the portion of the arm around which its adjoining grooves will pass over. These grooves are made of a requisite depth and breadth to form oil chambers for the perfect lubrication of the arm without diminishing in any appreciable degree the bearing of the box.

Claim.—The oblique or inclined grooves or oil chambers B formed within the axle-box A, substantially as and for the purpose set forth.

No. 19,385.—WILLIAM K. STEVENS, of Alexandria, La.—*Improvement in Lubricators*.—Patent dated February 16, 1858.—The two valves F F are so arranged relatively to each other and to the passages *a* and *b*, that when the spindle D and disk E are turned to bring one valve in a position to open the passage *a*, it moves the other over the passage *b* and thus allows the oil to descend by gravitation from the cup B to the chamber A without allowing steam to pass through the chamber. The spindle is turned by a lever G.

Claim.—The arrangement shown and described of the disk E and valves F, when the latter operate and are rendered adjustable, substantially as and for the purposes set forth.

No. 21,816.—ELIAS CLAMPITT, of Baltimore, Md.—*Improved Lubricator*.—Patent dated October 19, 1858.—The nature of this invention consists in supplying lubricating matter to steam cylinders, chests, &c., when it is required under a pressure of steam, by means of a valve which opens upon a downward pressure upon the cup, and closes itself by means of a spiral spring when said pressure is removed.

Claim.—The peculiar construction of my valve E and the introduction of hollow tubes G into stem J, (in connexion with valve E,) with its openings *c*¹ and flange below acting as a valve against the lower end of shaft J supplied with a spiral spring F at top, producing thereby a self-acting valve when the pressure on cup A is removed, as described.

No. 19,750.—WILLIAM CLOUGH, of Madison, Indiana.—*Improvement in Lubricator for Railroad Axles*.—Patent dated March 30, 1858.—This invention consists in a "hand" E attached to a sleeve F, which is fitted to work on a spindle within the oil box. It has also attached

a slotted or jointed arm *G*, that is connected with an eccentric wrist *b* at the end of the axle, which gives a rotary motion to the wrist, and causes the hand to receive a swinging motion, which alternately dips it into the oil in the oil box *A*, to take up a small quantity of oil, and lifts it up into contact with the journal *B* to deposit the oil upon the journal. It also consists in making the slotted arm, sleeve, and hand of a single piece of wire, so that the sleeve will constitute a spring.

The inventor says: I do not claim the use of an arm, deriving such a motion from the axle as to dip into the oil or grease, and deposit upon the journal at every revolution thereof.

But I *claim* the combination of the oiling finger *E*, slotted arm *G*, and wrist *b*, in the manner and for the purpose described.

And I also claim making the oiling finger *E*, sleeve *F*, and slotted arm *G*, from the same piece of wire, in the manner and for the purpose set forth.

No. 20,665.—ROBERT ROSS and WILLIAM HOLLAND, of Philadelphia, Pennsylvania.—*Improved Oil Cup for Machinery*.—Patent dated June 22, 1858.—When sufficient oil has been introduced into chamber *b* the stem *h* is allowed to rise and close the valve *s* by the action of the spring *t*. By then turning the handle *x*, the key *k* unscrews and raises valve *e* and allows the oil to flow into the steam cylinder, the previous closing of valve *s* preventing the escape of steam.

The inventors say: We *claim* the combination of the spring valve stem with the screw valve *e* in the intermediate chamber *b*, as set forth, each operating in conjunction with and at the same time independently of the other, to the extent and in the manner set forth.

We also claim the air passage *u* within the stem *h*, in combination with the oil passage *m*¹ around the stem *h*, in the manner set forth.

No. 19,572.—JUDSON MATTISON, of Oswego, New York.—*Improvement in Machine for Packing Flour*.—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, as a protection to the sack or barrel to be packed, a stationary or movable cylinder containing a screw or some other packing apparatus arranged to work within said cylinder and force the flour or other substance to be packed out of said cylinder, and pack it into the sack or barrel that surrounds it, substantially as described.

I also claim a traversing or yielding platform, so constructed and arranged as to hold the sack or barrel up around the cylinder containing the packer, substantially as described, and yield as the sack or barrel is filled with packed flour or other substance being packed by the machine; and in combination with the traversing platform I claim one or a series of weights *K*, arranged so as to counterbalance the weight of the material being packed on the platform, so as to pack the flour or other substance uniformly, from the bottom to the top of the sack or barrel.

No. 19,811.—SIMON INGERSOLL, of Brooklyn, N. Y., assignor to Himself, S. B. TURNER, and GEORGE W. KIMBALL, of said Brooklyn.—*Improvement in Presses*.—Patent dated March 30, 1858.—By raising lever P, the pawl X will drop in the teeth of ratchet O; and by pulling down lever P, the windlass N will turn and wind up the rope L, which, being fastened to the lever *g*, at D¹¹¹¹, by bolt *z*, the connecting chain I being fastened to the same bolt, and passing round shieve J to lever *g*, at D¹¹, will pull both levers *g h* at the same time in opposite directions, and pass from D¹¹¹¹ to D¹, and from D¹¹ to D¹¹¹¹, which will complete the pressing of the bale.

The inventor says: I am aware that levers similar to those used by me have been used before in various ways. I therefore disclaim them in and of themselves considered.

But I *claim* the levers *g g*, *h h*, chain I, shieve J, when arranged on the beams E K, in the manner shown and for the purpose set forth.

No. 22,387.—ENOCH THOMAS, of Beverly, Va.—*Improvement in Cam Press*.—Patent dated December 21, 1858.—The nature of this invention consists in the mode of constructing and arranging the journal boxes, so as easily to vary the space under the follower, and retain the uniform position of the pressure; also, combining the cam and windlass cast in one solid piece.

Claim.—The mode of making and arranging the journal boxes so as easily to vary the space under the follower, and retain the uniform position of the pressure, in combination with the cam and windlass, cast solid, when constructed and operated substantially as specified, and for the purposes set forth.

No. 20,346.—JACOB HIBBARD, of Weathersfield, N. Y.—*Improvement in Cheese Presses*.—Patent dated May 25, 1858.—This invention consists in operating the follower of the press by a system of levers and a weight, whereby a progressive power is obtained, and the cheese or curd so acted upon, or subjected to such a pressure that all the whey and useless substances will be expelled from it, and all the cream or oily and essential substances retained.

The inventor says: I am aware that progressive power presses have been previously used for compressing hay, cotton, and other substances; and I do not claim, therefore, broadly such operation.

But I *claim* the combination, as described and shown of the levers, I G, connecting rods F H, weight L, and follower D, for the purpose set forth.

No. 21,883.—HARTWELL KENDALL, of East Dorset, Vt.—*Improvement in Cheese Press*.—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Applying the power through the sliding frame F G H K, by means of the ratchet wheel O, and the pawls, lever, and crank connected therewith, or their equivalents, so that the shaft of said ratchet wheel shall act upon and move the eccentric, at the same time serving as an anti-friction roller, whereby simplicity, lightness, and compactness of construction and greater efficiency of action are secured, as specified.

No. 19,071.—NATHAN CHAPMAN, of Mystic River, Connecticut.—*Improvement in Cotton Press*.—Patent dated January 12, 1858.—The nature of this improvement consists in making the rods which connect the head and foot of the press in two parts, and connecting them by a hinged joint so that one of the parts can be vibrated while the other remains stationary; in hanging the press box on pivots so that it may be turned upright to be filled and turned horizontal to press the cotton; also in constructing and arranging the pivots of the press box that they may serve for pins in the hinge joints of the connecting rods; in making the boxes on which the pivots of the press box turn to traverse on ways so as to accommodate the position of the press box, and in arranging a bar to slide in a groove for the purpose of holding the follower in place and guide it in the press box.

Claim.—The bar T^1 and groove T , as described, in combination with the follower, for the purpose of holding it in position while the press box is turned up to be filled, and to guide it in the press box while it is pressing the ball.

No. 19,202.—DAVID G. OLMSTEAD, of Vicksburg, Mississippi.—*Improvement in Cotton Press*.—Patent dated January 26, 1858.—The wheel H may be cast solid; it consists of a plate g , and spiral flanges $h\ h$ on the opposite surface of the plate, starting from the periphery thereof, but gradually approaching the centre as they wind around until they reach the shaft I . These flanges are of sufficient strength to sustain the tension of the chain, and from a point at the periphery gradually increase in width toward the shaft sufficiently to cause the chain or rope to wind in the proper positions on the flanges of the shaft.

The inventor says: I do not claim the employment of a fusee wheel, single or double, for the purpose of pressing.

But I *claim* providing the fusee wheel with holes or equivalent means of attachment at intervals from end to end of the flanges thereof, so that the leverage of the press may be readily varied when desired, substantially as specified.

No. 19,279.—JAMES A. DISBROW and JAMES E. CRONK, of Poughkeepsie, N. Y., assignors to JAMES A. DISBROW aforesaid.—*Improvement in Cotton Presses*.—Patent dated February 2, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventors say: We are aware that windlasses have been previously used and arranged in various ways to operate the followers of presses, but we are not aware that the windlasses, ropes, and followers have been so arranged that the ropes could protect the press box from lateral pressure, while the substance within the box was being compressed. We do not claim, therefore, broadly, the employment or use of windlasses for operating the follower.

But we *claim* the arrangement of the drums $H\ H$, ropes J , and follower K , substantially as shown and described, whereby the ropes are made to serve the double function of lateral supports, and as a means for connecting the follower to the gearing or driving parts.

We further claim applying the power to the follower K, substantially as shown and described, to wit: by means of the rotating press box A and base B, annular rack E, gearing F b G G, in connexion with the drums H H and ropes J, or their equivalents.

No. 19,399.—F. W. WITTING, of Yorktown, Texas.—*Improvement in Cotton Presses*.—Patent dated February 16, 1858.—The nature of this invention consists in having one side of the press box B made movable, or so arranged that it may slide, and having toggles connected with it, the toggle being attached to rods I I, and so arranged with a follower E connected with a power screen, that as the follower descends it will automatically engage with the mechanism and move the side of the box inward, compressing the cotton.

The inventor says: I do not claim broadly compressing cotton by giving or subjecting it to both a lateral or vertical pressure, for this has been previously done.

But I *claim* the peculiar means employed for effecting such purpose, whereby the two movements are produced by one and the same application of power, to wit: having the side *k* connected to the toggles formed of the levers *n o*, in which the bars I G are attached, the bars I being provided with projections *q r* arranged relatively, as shown, with the follower E, which is operated by the screw C, or its equivalent.

No. 19,381.—H. W. RANDLE, of Barnsville, Alabama.—*Improvement in Cotton Presses*.—Patent dated February 16, 1858.—Power being applied to the shaft P causes the withdrawal of the follower C, and permits the bale to be discharged from its chamber. As the follower is drawn out of the box B the rear of its frame encounters the cross piece *d*, and thus enables the power exerted in the withdrawal of the follower to overcome the strength of springs *s*, and cause slide pieces *e e* to be withdrawn from off the string pieces of the box. Shoulder *i* of lever *l* then rises in front of cross piece *d*, (*fig. 2*,) and box B turns to its vertical position.

Claim.—The revolving box B and follower C, mounted on a carriage as described, in combination with the sliding frame *d e e*, so constructed as to lock the box and be withdrawn, substantially as set forth.

No. 19,413.—EUGENE DUCHAMP, of St. Martinsville, Louisiana.—*Improvement in Cotton Presses*.—Patent dated February 23, 1858. The object of this invention is to obtain a progressive or variable power, so that the power is increased and the speed decreased as power is required, and the power decreased and speed increased as a gradually less or diminishing power is required.

The inventor says: I am aware that presses have been devised in various ways, so that the plungers may be operated by a progressive power, and levers variously arranged have been used for such purpose. I therefore do not claim broadly, and irrespective of the means employed, thus operating the plungers.

But I *claim* the arrangement and combination of the link G, levers

F J E I, straps D H, and plungers B C, as and for the purposes set forth.

No. 19,571.—JOSEPH LOVING, of Moscow, Tennessee.—*Improvement in Cotton Presses*.—Patent dated March 9, 1858.—This invention relates to an improvement in that class of presses in which a progressive power is obtained, and consists in the peculiar means employed for actuating the follower, whereby a progressive power is not only obtained by a very simple means, but the small amount of friction attending the operating or moving of the follower gradually diminishes as the lever power is increased.

The inventor says: I do not claim broadly so operating the follower of the press that a progressive or variable power is obtained, for various plans have been devised for effecting this purpose.

But I *claim* the peculiar means employed for thus operating the follower, to wit: the crossed levers F G in combination with the rollers *a a b* and *e e f*, attached respectively to the follower bar E and straps *c c*, substantially as shown and described.

No. 19,714.—HIRAM ROSS, of Rockport, Indiana.—*Improvement in Cotton Presses*.—Patent dated March 23, 1858.—This is an improvement on that class of presses in which a progressive power is obtained, and consists in the employment of toggle E E' in connexion with a lever G, so arranged that the work is performed expeditiously.

The inventor says: I do not claim separately the toggles E E' for operating the follower D, for they are a common and well known device, and have been previously used for similar and analogous purposes.

But I *claim* the toggles E E', in combination with the lever G, provided with the semi-circular projections I J, and connected with toggles by cords or chains F K; the whole being arranged to operate substantially as and for the purpose set forth.

No. 19,821.—HENRY SHRADER, of Burnsville, Alabama.—*Improvement in Cotton Presses*.—Patent dated March 30, 1858.—A A is the frame; B B are the braces; *c* is the cap or beam to which the braces are jointed; R R are two double racks to which both braces are connected by the head H of the racks; I is a shaft on which is fastened the pinion P; this gears into the two racks.

The inventor says: I do not claim the use of racks, as they have been heretofore used; neither do I claim the toggle joints.

But I *claim* the construction and combination of the double racks with the toggle joints, as above described, for the purpose explained, and in the manner as set forth.

I also claim the hinge connecting the lower ends of the toggle levers with the follower, in combination with the operation of the levers, as described, by which both followers are operated in the same time and with the same application of power.

No. 19,838.—WILLIAM FIELD, of Providence, Rhode Island.—*Improvement in Cotton Presses*.—Patent dated April 6, 1858.—This in-

vention consists in connecting the followers with each other by chains, or any other flexible connexion, so arranged that the motion imparted to the upper follower D is transmitted by it to the lower one E, whereby the power is only applied to one instead of both the followers. Also in arranging the chains connecting the followers; and also the screw *g* that gives motion to the upper follower, so that the strain of the screw on one side of the top of the press is counterbalanced by the strain of the chains on the opposite side, by which means the press is borne by the top girt alone, and not, as in other presses, transferred to the frame, thereby requiring it to be made of great strength.

The inventor says: I *claim*, 1st. The arrangement of the chains, or their equivalent, connecting the followers, so that by applying power and motion to one follower it is transmitted to the other, and also the followers retain their parallelism to each other, however unequal the resistance at either ends.

2d. The combination of the screw for raising the follower with the chains, or their equivalent, for raising the followers, when arranged as described, for the purpose set forth.

3d. The guard plate, in combination with the followers, for the purpose described.

No. 20,973.—REDDING G. WILLIAMS, of Hannahatchee, Georgia.—*Improvement in Cotton Presses*.—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Arranging the press in relation to the screw that any required length of lever for operating the press may be obtained, the press resting on the upper main sill A, instead of resting on the ground sill, as set forth.

No. 21,317.—THOMAS J. BOTTOMS and JAMES A. BULLOCK, of Thomas county, Georgia.—*Improvement in Cotton Presses*.—Patent dated August 31, 1858.—The lever D is attached to the staff C of the follower C¹ by means of the pin *c*, which passes through the end of the staff C, and through the bridle plate *z*. The box B is of a form and dimensions to receive the material to be pressed, and the follower C¹, which enters at the end F, and plays within it, fitting closely.

Claim.—The combination of the follower staff C, bridle *h*, lever D, follower C¹, and the revolving perforated box B, operating as described and for the purposes set forth.

No. 21,894.—CORNELIUS MARTRATT, of Waterford, N. Y.—*Improvement in Cotton Presses*.—Patent dated October 26, 1858.—The nature of this invention is explained by the claim and engravings.

Claim.—The application of the racks connected to the frame, in combination with the pinions and side shafts, revolving freely, and connected to the sides of the follower L, for the purpose of distributing the pressure equally over the surface of follower as it is raised, and obviating the tipping and end strain and diminishing the friction, substantially as set forth.

No 19,708.—CHARLES MOORE, of Trenton, N. J.—*Improvement in Presses for Extracting Oil from Linseed.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the combination of the ground plates with the hair padding, or such other padding as may be used, fastened to the plates of the press, with its edges made thicker than the body of the padding.

I also claim connecting the upper plate D to the top of the press by links or staples and pins, and the plates to one another by links and pins, so arranged that the plates may be pressed together without cramping the links by which they are connected.

No. 19,149.—CHARLES MOORE, of Trenton, N. J.—*Improvement in Presses for Packing the Pulp of Linseed or other Seeds Preparatory to Extracting the Oil from them.*—Patent dated January 19, 1858.—The nature of this invention consists in arranging a hinged hopper M over the mould, into which the pulp or other substance is to be passed, in combination with a follower L, working down through the hopper, and pressing the pulp or other substance into the mould O.

Claim.—In combination with the described mould and hinged hopper a follower fitted to work through the said hopper into the mould, and operated substantially as described for the purposes set forth.

No. 20,551.—LINCOLN L. CUMMINGS, of Munnsville, N. Y.—*Improvement in Hay and Cotton Presses, &c.*—Patent dated June 15, 1858.—The object of this invention is to overcome the difficulty attending the free or perfect operation of the press, in case the follower in its descent assumes an inclined position. This object is attained by having the screws which, in connexion with rotating nuts J, form the device by which the follower is operated, fitted in movable plates, so that the screws and nuts may, when necessary, be shifted or adjusted for the purpose of regulating, during the operation of pressing, the position of the follower.

The inventor says: I do not claim the screws I and nuts J for the purpose of operating the follower B, for they have been previously used.

But I *claim* the caps D, plates E E, and the bar C, in combination with the screws I I and nuts J; the whole being arranged to operate as and for the purpose set forth.

No. 22,216.—HENRY BARNES, of Blairsville, Penn., assignor to Himself and N. G. MACRUM, of Pittsburg, Penn.—*Improvement in Hay and Cotton Press.*—Patent dated November 30, 1858.—In operating this machine, when the cam or eccentric is twined in the direction of the arrow, so as to shove the follower C inward, the speed of the follower will be gradually decreased as the periphery of the cam or eccentric gradually approaches nearer its axis. The leverage and power will, therefore, be correspondingly increased as power is required.

Claim.—The arrangement and combination of the geared eccentric F, inclined rack E, and follower D, substantially as and for the purpose shown and described.

No. 19,232.—JOSEPH W. BOCAGE, Pine Bluff, Ark.—*Improvement in Jack-Screw Presses.*—Patent dated February 2, 1858.—These improvements refer only to the “Jack-Screw Press,” and are designed—1st, to simplify the same so that negroes may superintend its management; 2d, to render the follower of the same capable of self-lowering; and, 3d, lessen the weight of the toothed rack-bar, which carries the follower, without impairing the strength at the point where the greatest strain comes upon it.

The inventor says: I *claim* the arrangement and combination of the follower E, toothed rack-bar F, pinion G, grooved pulley I, and windlass L, in the position and manner specified, for the purpose of rendering the follower capable of pressing upward and self-lowering, as set forth.

Second. Giving the toothed rack-bar a gradual taper on each edge, from bottom to top, so that it shall contain less metal, and require less power to raise it, substantially as set forth.

No. 20,509.—PHILIP H. RAIFORD, of Mobile, Ala.—*Improvement in Ratchet Presses.*—Patent dated June 8, 1858.—The object of this invention is to actuate the pawl *a b* that moves the ratchet *c* by means of an eccentric *e f* on a revolving shaft *g*. The power with which the ratchet is operated by this arrangement is inversely as the difference between the longest and shortest radii of the eccentric.

Claim.—The combination of the eccentric pawl and ratchet with the platen of a press, substantially as described.

No. 19,256.—WILLIAM R. MUSSER, of Baltimore, Md., and JOHN COLEMAN, of Lynchburg, Va.—*Improvement in Tobacco Presses.*—Patent dated February 2, 1858.—The nature of this invention consists in the application of levers A and U to a stout piston-rod *d d* running through the head of the press E for the purpose of giving pressure to the platen H I J of the press, which is detached from the piston-rod and made to fit over the top bar. M is the truck which is used for the purpose of running the braces K K containing the material to be pressed under the rod, and removing them after being pressed.

Claim.—The application of the levers A and U, the sheaths over which the chain passes, said chain being connected to the end of lever U; the braces K K to retain the pressure, and the movable truck passing under the press. Also the combination of the whole as a new and useful machine for mechanical purposes, substantially as set forth.

No. 21,079.—DAVID L. MILLER, of Madison, New Jersey.—*Improvement in Mode of Operating Presses.*—Patent dated August 3, 1858.—L is the movable or press plate, which is provided with a hole in its centre to receive the lower end of the movable cylindrical nut C, which is also provided with a shaft or bearing at its lower end, upon which it revolves when turned by the large crank D.

The inventor says: I do not pretend to claim the individual or separate parts of the described apparatus for operating presses, as my patent on "lifting jacks" covers both the gearings, outer cylinder B and inner cylinder C.

But I *claim* the application of two distinct actions by means of the bevel gearing D, endless screw gear G, barrel B, cylindric nut c, arranged and operated substantially as described and shown.

No. 20,947.—HENRY KRAUSE, of New York, N. Y.—*Improvement in Machine for Pressing Grapes*.—Patent dated July 20, 1858.—The grapes pass from the hopper A down between the soft roller D and the hand roller E, where they are thoroughly mashed or squeezed, but the skins and seeds adhere to the roller D, and not to the roller E. The skins and seeds are scraped off the soft roller by the scraper F, and thrown out of the door Y. The juice passes down through the strainer N into the receiver, from thence through the pipe e to the casks.

The inventor says: I do not claim to be the inventor of rollers for pressing grapes.

But I *claim* the soft roller D, in combination with the adjustable hard roller E, arranged and operated by means of the cogged gearing, in the manner and for the ostensible purpose substantially as described and shown.

No. 22,014.—WILLIAM CAMERON, of Petersburg, Virginia.—*Improvement in Machinery for Pressing Tobacco*.—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the construction of the ring which contains the tobacco boxes, viz: by segments held together by a band which can be tightened or loosed, and move independent of said segments, as set forth.

I also claim the forming of a press by means of one, two, or more of such rings, enclosing a series of tobacco boxes with plates above and below them, and screw-rods furnished with hand wheels and nuts passing through said rings and plates, substantially as described.

No. 20,623.—THOMAS F. CHRISTIAN, of Wilson, North Carolina.—*Improvement in Machine for Sowing Marl, Dirt, &c.*—Patent dated June 22, 1858.—The nature of this invention consists in providing suitable buckets to lift the marl or dirt from excavations, and also the water that accumulates in the bottom of the same, and an apron to receive and elevate the marl or dirt to the top of the pit, which is worked by cranks and wheels.

Claim.—The adjustable marl, dirt and water elevator, in combination with the movable pinions *p p*, cross bar *n*, and endless apron *s*, as described, and with the additional elevator and extension piece, for the purpose set forth, and substantially as described, in the manner specified.

No. 21,145.—HORATIO B. OSGOOD, of New Haven, Connecticut.—*Improvement in Counter Scales*.—Patent dated August 10, 1858.—The nature of this invention consists in an improved method of bringing the pea *e* to a standard weight for reading from a double scale—*i. e.*, a scale marked on each side of the beam.

Claim.—The method of bringing the pea to a standard weight, and to enable it to indicate weight from scales on opposite sides of the beam, consisting of the adjustable pins, in combination with the pea as described, substantially in the manner set forth.

No. 19,061.—JAMES KELLY, of Sag Harbor, New York, assignor to Himself and JOHN SHERRY, of Sag Harbor, New York.—*Improvement in Platform Scales*.—Patent dated January 5, 1858.—In this improvement the bars B, arms C, arm E, lever F, and rod H, form the connexion between the scale beam I and platform D. If the weight upon the platform D bears upon one projection *d* more than on the others, it will not affect the operation of the scales, because the arm C are connected, and the pressure of the weight will be transmitted equally to all the bearings.

Claim.—The combination of the bars B by linking together the extremities of the arm *c*, when the said bars and arms are arranged in respect to each other as set forth.

No. 19,985.—CHARLES H. EARLE, of Green Bay, Wisconsin.—*Improvement in Platform Scales*.—Patent dated April 20, 1858.—This invention consists of a peculiar arrangement of means employed for connecting the scale beam with the platform, the object being to simplify the construction of platform scales, and render the different parts less liable to get out of repair.

The inventor says: I *claim*, first, supporting the platform by plates I P, arranged as shown, and connecting the platform with the beam Q, by means of the bent lever O, rod N, and arm M, or an equivalent device, for the purpose specified.

Second. The auxiliary weight formed of the chain U, in connexion with the cup T, arranged as shown, or in any equivalent way, to operate as and for the purpose set forth.

No. 20,492.—J. F. KEELER, of Cleveland, Ohio.—*Improvement in Platform Scales*.—Patent dated June 8, 1858.—The nature of this invention consists in constructing platform scales with a spirit lever G, or plumb line C, so arranged that the level of the scale, or any variation therefrom, will be indicated and corrected by a weighted pointer or indicator *a*.

The inventor says: I *claim* the application of a device for levelling the bearings of platform scales, when arranged substantially as described.

I also claim combining with platform scales a weighted lever or indicator, in such a manner that the platform scales may be used either with or without it, substantially as set forth.

No. 22,244.—ELNATHAN SAMPSON, of St. Johnsbury, Vermont.—*Improvement in Platform Scales*.—Patent dated December 7, 1858.—This invention consists in dispensing with the lower cross-bars and their attachments, heretofore employed for sustaining the platform and indicating the weight of objects brought upon the same, and substituting therefor a more simple and economical combination and arrangement of parts, which shall not only render the scale more effective and sensitive in its operation, but also less liable to get out of order from the constant traversing of cars and other objects over its platform.

Claim.—The arrangement of the stationary frame B, descending and sliding platform L L¹, rising frame H, descending arm O, and weighing beam, when the whole is combined by means of links E E I N, and knife-edge bearings D G M M¹ K, and arranged in the manner and for the purpose as described.

No. 20,792.—SAMUEL H. HARTMAN, of Pittsburg, Pennsylvania.—*Improvement in Machines for Testing the Strength in Springs*.—Patent dated July 6, 1858.—The spring is placed upon the point *b* of the cross-head I, and the cross-head E is then run down upon it until its point *c* rests upon the highest point of the spring, which is then held between its highest and lowest points. The steam cock L is then turned so as to admit steam under the piston G, which rises and compresses the spring. When an amount of pressure has been put upon the spring equal to that which it is designed to sustain, the steam cock L is turned so as to connect the cylinder with the exhaust K, and the piston drops to its original position.

The inventor says: I *claim*, first, the application of steam through mechanical appliances, substantially such as represented, to the compressing springs, with a view of testing their temper or strength, substantially as described.

I also claim, in combination with steam applied as stated for compressing the spring to ascertain its temper or strength, the application of a steam indicator, for showing in pounds weight or otherwise the amount of pressure applied, as set forth.

No. 21,950.—JOHN FERRIER, of Charlestown, Massachusetts.—*Improvement in Tackle Blocks*.—Patent dated November 2, 1858.—This invention consists in constructing the block with two rows of pulleys, one placed above the other, with the axis of one row at right angles to that of the other, the rope passing around the pulleys of the blocks so that a great number of pulleys may be placed within a block of less cumbersome dimensions than usual, friction diminished, and a strong block obtained.

Claim.—Placing two rows of pulleys C D in each block, the axis *a* of one row being at right angles to the axis *b* of the other, and the rope passed or adjusted around the pulleys, as and for the purpose set forth.

No. 21,028.—J. SCHEITLIN, of Columbia, South Carolina.—*Improvement in Machine for Weighing and Registering Grain*.—Patent dated

July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, a bucket F with two compartments, for a grain weighing and registering machine, which is suspended freely from the arm R of the balance until the weighing is completed, and does not require to be turned or oscillated to dislodge the grain.

Second. The combination of a bucket with a tipping bottom to open and close the compartments alternately, with a tipping tray operating substantially as described.

Third. The combination of the roller-arm, or its equivalent, with the scale beam B and registering apparatus, in such manner that the same part of the mechanism which makes the count also resets and locks the tipping bottom, so that no miscount can be made.

No. 21,999.—JAMES W. MARTIN, of Philadelphia, Pennsylvania, assignor to LEWIS ROTHERMEL, of said Philadelphia.—*Improvement in Weighing Carts*.—Patent dated November 2, 1858.—This invention relates to an improvement on a weighing cart, which was patented by the inventor May 20, 1856. The device is intended for weighing loads previously to being dumped, so that the purchaser can ascertain the weight of the article bought, and thereby prevent imposition. It consists in an improved mechanism whereby the cart body may be firmly secured to its bed, and also, when necessary, detached therefrom, and elevated so as to be connected only with the scale beam for the purpose of having the load weighed.

Claim.—The shaft E, provided with hooks *d d* and arms *e e*, which are connected by rods *f f* with lever *h*, having their fulcrum *i* connected by pendants *j* to the arms *k* of a shaft *l*, which is connected with the scale beam G by the arm *o* and rod *a*, the rods *q* of the body resting on the lever *h*, when the latter raises the body, and the latter provided with the rod *c* for the hooks *d* to catch over; the whole being arranged substantially as and for the purpose set forth.

No. 20,513.—WILLIAM SCHNEBLY and THOMAS SCHNEBLY, of Hackensack, New Jersey.—*Improvement in Automatic Grain Weighing Machines*.—Patent dated June 8, 1858.—The inventors say: We do not claim to be the first inventors of weighing machines in which the weight of grain was made to open and close valves for regulating the supply and discharge of the same; for many such machines have been made.

Neither do we claim broadly in weighing machines the operating of the parts which control the supply and discharge of the grain by means of the scale beam, or by means of parts connected with the scale beam; many other machines have been made in which this feature is seen. The patent of W. H. Bramble, April 8, 1856, is an example in point. In this device a connexion is made, for one of the purposes just mentioned, with the scale beam; our connexion is behind or in the rear of the fulcrum. It is a great and important point to have the scale beam elongated in front, or in advance of the fulcrum, and to operate the parts which control the supply of, and dis-

charge of, the grain by arms M M² in front of the fulcrum. This arrangement permits the discharge valves O O to be kept open for the full exit of the grain until the opposite tub I has been filled. The valves could not thus be kept open if they were operated by means of the rear end of the scale beam. The use of the elongated arm in front of the fulcrum also permits a great simplification of the machine, and dispenses with the necessity of connecting rods and levers, lessens the number of points of friction, and promotes the probabilities of accuracy.

We therefore *claim* the weighing of grain, &c., automatically, under a continuous flow or otherwise, without employing the gravity or weight of grain being weighed for the purpose of checking or cutting off the supply of grain entering into the receptacles to be weighed, or for the purpose of discharging the grain from the receptacles in which it has been weighed, during the period of the process of weighing, or when the quantity of grain is being determined or weighed, substantially in the manner as set forth.

We claim providing the hopper B with hinged valves c c, each having a lever with a weight D D on it, and attached thereto, when used in combination with projecting arms, which are made to operate the same, in the manner and for the purpose as set forth.

We claim the balanced valve E in its location below the hopper and above the stationary chute or bridge, when used in combination with projecting arms G G, cams F, &c., and a pendulum, with an adjustable weight, in the manner and for the purpose substantially as set forth.

We claim the toggle joints P P, in combination with vertical hinged valves, when operated on and for the purpose as substantially set forth.

No. 19,466.—JOHN HARTMAN, jr., of Philadelphia, Pennsylvania, assignor to JOHN HARTMAN, sr., of said Philadelphia —*Improvement in the Construction and Arrangement of the Weighing Mechanism Applied to the Carts of Coal Dealers and Others.*—Patent dated February 23, 1858.—This invention consists in supporting the platform levers C and C¹ directly upon the cart axle tree and a single cross piece F fixed to the thill, or shaft timbers B B, so as to dispense with the supplementary frame; in making the weight points of the said levers to serve also as axles to friction rollers, so as to cause the latter to bear directly against parts of the bottom frame of the cart body without a dragging motion; and also to allow the tilting motion of the body without its carrying with it both of the platform levers; and also the mode of keeping the body in its proper position in connexion with the shaft's frame, so as to permit its more free motion up and down in weighing and in tilting the body, so that it shall not impair its fixed security thereon whilst the

The inventor says: I *claim*, first, supporting the platform lever C and C¹ directly upon the axle tree E and the cross piece F, which is fixed to the thill timbers, substantially in the manner and for the purposes set forth and described.

Second. I claim the use of the friction rollers I I, so that their axles shall serve as the weight points to the levers C and C¹, the same

being applied to the levers so as to operate substantially in the manner and for the purposes set forth and described.

Third. I also claim the combination of the vertically slotted plates *ff*, rigidly fixed to the axle tree *E*, and the thill pieces *B B*, as described, with the friction rollers *g g* working in the said slots and upon the journals *h h* fixed in the frame of the cart body as described, so as to operate together in the manner and for the purposes set forth and described.

No. 19,263.—WILLIAM RIKER, of Penn Yan, New York.—*Improvement in Safety Winch*.—Patent dated February 2, 1858.—A represents the shaft to which the winch is applied; *B* the main arm or lever of the winch; *C C* the ratchets placed on the shaft; *D D* are the pawls placed on the sides of the lever and attached to the cross bar *I*. The operator must take hold of the handle *C* and turn either direction, when one of the pawls will catch and allow him to exert his force upon the shaft. When he lets go the handle the pawl will leave the ratchet and the winch will hang down loose upon the shaft, and there will be no danger from the winch if the shaft continues to revolve.

Claim.—The means used to operate the pawls *D* and *D*, substantially as above specified; also the ratchets *C* and *C*, when used in combination with the devices mentioned.

XIII.—GRINDING MILLS, ETC.

No. 19,735.—SAMUEL GREEN, of Grand Rapids, Michigan, assignor to SILAS B. GREEN, of Rochester, New York.—*Improvement in Belt Coupling*.—Patent dated March 23, 1858.—This invention consists of a metal plate *C* of oblong form, equal in length to the width of the belt to which it is applied, and firmly riveted to one end of the belt parallel with its edge. This plate or stock has one or more slots in it, in which slots tongues *D*, corrugated or grooved at one edge and provided with spurs, are fitted. The opposite end of the belt is passed through the slot in the plate, and, owing to its relative position with the tongues and plate, is firmly secured therein by the tension of the belt, and the two ends of the same are firmly connected.

Claim.—The plate or stock *C* slotted and provided with tongues *D*, one or more, corrugated at one edge and provided with spurs *g*, the whole being constructed, arranged, and applied to the ends *A B* of the belt, so as to act substantially as and for the purpose set forth.

No. 19,318.—HENRY UNDERWOOD, of New York, N. Y.—*Improved Lap Joints for Belting*.—Patent dated February 9, 1858.—This invention is designed to prevent the ruffling or turning up of the outer ends of the laps which is generally caused by the friction produced as the joint passes over pulleys, drums, &c., and also to prevent the cutting

of the thin outer ends of the lap by the heads of the rivets in case the cement loses its adhesive property or gives way, and the connexion thereby formed solely by the rivets.

Claim.—The straps *b* placed on the rivets *a a*¹ which pass through the outer and inner ends of the laps or “skived” portion of the parts or ends A B of the belt, as shown, so that the straps may project over the outer thin ends of the laps, substantially as and for the purpose as set forth.

No. 21,596.—JOHN H. CHEEVER, of New York, N. Y.—*Improvement in Machine Belting*.—Patent dated September 28, 1858.—This invention consists in so combining wire cloth or netting, or strands of wire, with India-rubber or gutta-percha to produce machine belting, or banding, that the wire shall give the banding or belting the great strength necessary to resist the great strain it is required to sustain, while that peculiar surface which has been found so useful for belting or banding is obtained by the India-rubber or gutta-percha.

Claim.—The manufacture of belts or bands of a combination of India-rubber or gutta-percha with wire cloth or netting, or strands of wire, substantially as and for the purpose described.

No. 20,564.—MARSHALL JEWELL, of Hartford, Connecticut.—*Improvement in the Manufacturing of Round Belting*.—Patent dated June 15, 1858.—Fig. 1 shows two pieces of leather, one a little broader than the other, and put together so that one piece shall lap over the joint of the other and sewed through the centre.

Claim.—A new manufacture of round leather belting, composed of two or more thicknesses, stitched and twisted, as shown, in the manner and for the purpose set forth and described.

No. 19,272.—MORRIS WELLS, of Brooklyn, N. Y.—*Improvement for Shifting Belts*.—Patent dated February 2, 1858.—The shifting bar A with a spring for shifting it in one direction and a cord D and pulley E for drawing it in the opposite, are placed in a box B B¹, and a bolt C F is provided for locking the bar, which brings the entire shifter within a very small compass and in such convenient form that it can be attached to a beam, post, or any required support, in a few moments, and is immediately ready for use.

The inventor says: I *claim* the arrangement of the shifting bar A, spiral spring C, pulley E, bolt F, and cords D *h*, within and relatively to the box B B¹, in the manner substantially as described, whereby the whole of the shifter is brought within a very small compass, and in such convenient form that it can be very readily attached in any convenient place.

No. 19,892.—JOEL WOODWARD, of Philadelphia, Pa.—*Improvement in Machinery for Bolting, Dusting, and Separating the Ground Material*.—Patent dated April 6, 1858.—The nature of this invention consists, first, in the stationary brush, or distributor, resting on the coarse wire to keep the meal scraped off and distribute the same evenly. Second, the manner of making the separations in connexion and in

combination with the bolting, scouring, and dusting, by which room, power, and expense, are reduced, and any number of separations made that may be required. Third, the construction of the bottom and the manner of the discharge.

The inventor says: I *claim*, first, the stationary brush or distributor shown by letter *a*, for the purpose as set forth.

Second. The brushes E E E so arranged as to carry the meal or bran to or from the centre, whereby the substance can be scoured or brushed as much as desired, in the manner and for the purposes set forth.

Third. The manner of making any number of separations or any mode of combining more than two separations in the duster or separator, in the manner and for the purpose set forth.

Fourth. The manner of providing the corresponding bottom or platform below E E with sweeps or scrapers to carry the flour to spouts, as set forth.

Fifth. And the mode of regulating the brushes on the wire or cloth by the bolts or set screws, and the screw *b* at the bottom of the shaft I, in the manner and for the purpose substantially as described, and to be used in connexion with the specification.

No. 19,024.—DAVID GEIB, of Mifflintown, Pa.—*Improvement in Flour Bolting*.—Patent dated January 5, 1858.—This invention consists in the employment of two or more bolts in connexion with elevators and conveyors, so arranged that the inferior boltings of the first bolt are passed or fed into the second or other bolts, certain portions of the bolting of which are mixed, and others allowed to pass or be discharged separately therefrom. The object of the invention is to avoid the necessity of rebolting all the meal, good and inferior, in one and the same bolt, and thereby keep the superior portion free from the substances which darken it or render it speckled.

Claim.—The bolts C D, two or more, provided with conveyors, spouts, and elevators, combined and arranged with each other relatively as shown, or in an equivalent way to effect the purpose set forth.

No. 21,277.—BENJAMIN D. SANDERS, of Holliday's Cove, Va.—*Improvement in Machinery for Bolting Flour*.—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* depriving superfine flour of fine offal or impurities by rebolting it after escape from the head of the first reel C¹, or by a second reel C², apart from the main body of meal, or coarse meal and coarse offal in the first reel, substantially as specified.

And I further claim rebolting the coarser grades of fine offal and material admixed therewith, passing off at the tail end of the second reel by or in a third reel C³ for restoring to the superfine flour that which belongs to it, and for the more perfect separation, without waste, of impurities therefrom.

No. 19,303.—SAMUEL G. MCMURTRY, of West Urbana, Illinois.—*Improvement in Flour Bolts*.—Patent dated February 9, 1858.—The

nature of this improvement will be understood by examining the claim and engravings.

The inventor says: I am aware that fans have been previously applied to bolts to effect the purpose described, and I do not therefore claim the employment or use of the fan in itself considered.

Nor do I claim the employment or use of the rotating beaters or brushes within the bolt, for they have been previously used.

But I *claim* the arrangement of the bolt frame *b*, bottom plate *r*, flanches *l l*, plates *c d e*, and spouts *E F G H*, substantially as described, whereby the current of air is prevented from drawing through the centre of the bolt, but is spread so as to pass along near the surface of the bolting-cloth, while the flour is not only suspended in a current of dry air, but is conducted through the cloth out upon the annular plates, and down the peculiarly arranged air-tight spouts to the place of storing, nothing whatever being able to escape except through the proper channel.

No. 21,009.—S. B. MANNING, of Alleghany, Pennsylvania.—*Improvement in Bran Dusters*.—Patent dated July 27, 1858.—This invention consists in making a bran duster in two sections or chambers, one of which is surrounded by a covering of coarse open wire-work which allows everything to pass through, except hard lumps of dough or foreign substances which ought to be separated from the feed, and allows nothing to pass into the lower chamber *K* that would injure the gauze by being thrown over it.

The inventor says: I do not claim as new the use of the wire gauze covering, nor the slats *r¹ r¹*, nor the concave *a*.

But I *claim* the use of a separate chamber covered with coarse wire net-work, in addition to and in combination with the ordinary chamber covered with fine gauze wire net-work, arranged substantially in the manner and for the purposes set forth.

No. 21,061.—AARON BROOKS, of Crawford county, Indiana.—*Improvement in Substitute for the Crank*.—Patent dated August 3, 1858.—The claim and engraving explain the nature of this invention.

Claim.—A perpendicular pitman, and the dispensing with a crank by means of the wheel *B B* attached to the shaft *A*, and the slide or rollers *E F* attached to the pitman *C C*, and moving in the groove *D D¹*, the said pitman always moving perpendicular.

No. 21,030.—CHARLES POWELL STANFORD, of Mount Gregory, California.—*Improvement in Feeding Quartz, &c., to Machines for Crushing and Grinding the same*.—Patent dated July 27, 1858.—This invention consists in arranging a lever *I*, in connexion with the shoe *H*, in such a manner that it is agitated by the dropping of the stamper *E* whenever the crushing surfaces come close enough into contact to make a fresh supply desirable.

Claim.—The arrangement described of a lever *I*, which is adjustable by a set screw *J*, in connexion with a shoe *H*, in such a manner that said shoe is agitated by the dropping of the stamper, and some

of the quartz or other substance is caused to fall into the pan or mortar at such a time and in such a quantity as desired.

No. 20,601.—JOHN A. WILSON, of Dover, New Jersey.—*Improvement in Hulling Stone Dress*.—Patent dated June 15, 1858.—Fig. 1 is a runner 36 inches in diameter. The inventor says: First draw two straight lines A^1 and A^2 , intersecting each other at right angles. Second, describe a circle of 3 inches radius B for eye of stone; then describe a circle of 8 inches radius C. Third, draw a straight line D^1 from the intersection of circle B with a radius A^1 to the intersection of circle C with radius A^2 ; bisect line D^1 and describe arc of circle E^1 ; contract dividers $\frac{3}{4}$ of an inch and describe corresponding circle, which will show size and shape of first discharging furrow. Fourth, extend dividers 16 inches and place each foot at intersection of radial line A^1 with circle C, and describe first retaining furrow F^1 from side intersection to skirt of stone; contract dividers $\frac{5}{8}$ of an inch and describe corresponding line, which will indicate shape and width of retaining furrows.

Claim.—The manner of generating and constructing furrows in hulling stones for the purpose of equalizing the distribution of the grain over the surface of the stones, so as to prevent clogging at the eye, and retaining the grain on the periphery of the stone until perfectly hulled, as is substantially set forth and described.

No. 22,006.—HORACE B. ALLIS, of Little Rock, Arkansas.—*Improvement in Flour Coolers*.—Patent dated November 9, 1858.—This invention consists in the combination with a polygonal, cylindrical, or conical cooler hung upon a nearly horizontal shaft, of radial or nearly radial screens for breaking up and separating the adhering particles of meal or flour, and thus facilitating the cooling action.

Claim.—The combination with a cooler hung so as to revolve upon a nearly horizontal shaft as described, of nearly radial screens, as stated and shown, and also the combination therewith, as an auxiliary to accomplish the desired result, of the solid flanges g , for checking the motion of the meal till the screens have arrived at the proper angle to properly distribute the meal, as set forth.

No. 22,116.—G. P. GANSTER, of Reading, Pennsylvania.—*Improvement in Gearing*.—Patent dated November 23, 1858.—E and F are two wheels respectively. The collars of wheel F correspond in thickness with the plates of wheel E, and the plates $D^1 D^2$ correspond in thickness with the wheels B. When the two wheels E and F are placed together they will mask, as seen in the engravings. Power being applied to wheel F, the teeth of the plates $D^1 D^2$, &c., will bear at their points upon the wheels B $B^1 B^2$ successively from end to end, only one tooth bearing at a time upon the rollers, except when the wheels change from one cog to the other, in which case one tooth of each end plate will bear upon its corresponding roller, thus changing the bearing from one end to the other, and the wheels from one end to the other.

Claim.—The arrangement on the wheels E and F, of the plates

A A¹ A², rollers or wheels B B B, plates D D¹ D², and collars o o o, the whole being constructed and operating in the manner and for the purpose specified.

No. 22,118.—EBENEZER A. GOODES, of Philadelphia, Pennsylvania.—*Improvement in Gearing*.—Patent dated November 23, 1858.—This invention is designed to supersede the ordinary cog or tooth gearing, and consists in having spiral ledges or threads formed on one wheel and made to gear or work into corresponding in its fellow.

Claim.—Providing the wheels respectively with the spiral projections *a* and spiral grooves *b*, substantially as and for the purposes shown and described.

No. 20,672.—WILLIAM WEBSTER, of Jefferson county, Washington Territory.—*Improvement in Gearing for Machinery*.—Patent dated June 22, 1858.—The nature of this invention consists in the employment in a face wheel B C of any required number of concentric movable rings of cogs *e e e e* gearing into a corresponding number of uniform pinions I I¹ I², either one of said rings being thrown into gear with its appropriate pinion at will, thus causing a change of speed corresponding with the change of proportion between the diameter of cog rings and that of the pinion.

The inventor says: I *claim* the compound annular cog-wheel described, the same being constructed and operating substantially in the manner specified.

I also claim, in combination with a wheel having two or more concentric rings of cogs, the use of a corresponding number of pinions on one shaft, or of a shifting pinion arranged for combined operation with the wheel, substantially as and for the purpose specified.

No. 21,245.—CHARLES D. CLARK, of Chicago, Illinois.—*Improved Apparatus for Cooling and Ventilating Grain*.—Patent dated August 24, 1858.—The object of this invention is to cool and purify grain. A represents the blast-pipe; B the cylinder; C the rectangular grates; D the sectional view of the grates; E the blast; F the separating cone.

Claim.—The arrangement of the cylinder B, provided with rectangular grates, and blast-pipe A, and separating cone F operating in connexion with the blast through the pipe E, substantially as and for the purposes described.

No. 20,422.—J. G. GOSHON, of Mercersburg, Pennsylvania, and WILLIAM BOWERS, of Chambersburg, Pennsylvania.—*Improvement in Machines for Cleaning Grain*.—Patent dated June 1, 1858.—The scourer consists of a disk B studded with upright teeth *a a*, and mounted upon a vertical shaft C driven by pulley D. Around the edge of the disk and secured to it is a concave roughened rim E, and above the teeth and rim is a cap-piece F concave on its under side. Under the disks are four arms *b*, terminated by brushes reaching to the casing G, which is of wire gauze, and opens into a chamber I, concentric with the beater chamber.

The inventors say: We make no claim to the employment of a disk scourer with upright beaters, separately considered, as such is not new.

But we *claim* the scourer composed of the spike-studded disk B, concave rim E, and concave cap-piece F, as described, in combination with the brushes H and the casing enclosing the said parts, arranged and operating substantially as and for the purposes set forth.

No. 20,399.—PELEG BARKER, of North Adams, Michigan.—*Improvement in Machine for Elevating, Measuring, Registering, and Bagging Grain*.—Patent dated June 1, 1858.—The measures, reservoirs B, elevators A, &c., comprising this invention, are secured to the separators and fanning-mill as connected to threshing machines in general use, in a permanent manner, with the lower ends of the measures high enough to admit of the hanging on of bags. The elevators pass entirely around the separator, with the lower quarter placed just below the lower edge of the shoe or grain board, so that the grain is discharged into the side of the trunk of the elevators. The perpendicular quarters of the elevators pass up on either side of the separator, with the top end inclining outward. The elevators receive their motion from the shake-rod of the fanning-mill.

The inventor says: I *claim* the application to threshing machines of elevators, reservoirs, measures, and registers, which will elevate the grain, measure it, and discharge it into bags, without the necessity of handling.

I do not claim this particular kind of elevators and fixtures, but these or any others substantially the same, which will produce the desired effect.

No. 21,144.—RUFUS NUTTING, of Randolph, Vt.—*Improvement in Machines for Fanning and Assorting Grain*.—Patent dated August 10, 1858.—A description of this invention is too long for a place in this volume; the reader will have an idea of it by an examination of the claim and drawing.

The inventor says: I *claim*, first, the arrangement of the screens J J¹ J² for separating and assorting, substantially as described, when so combined with shoes, frames, and motive arrangement, that the grain, seeds, beans, &c., are required to pass over them in a sliding or rolling manner, and not caused or allowed to drop on their surface, or fall thereupon vertically, or so as to strike an aperture endwise first, constructed and operated substantially as set forth.

Second. The hold-fast, substantially as described and for the purposes set forth.

Third. The extra-screens box, substantially as described and for the purposes set forth, in combination with the drawers.

Fourth. The percussion bar, substantially as described and for the purposes mentioned.

No. 22,359.—PHILIP C. FRITZ, of Barrytown, N. Y.—*Improvement in Machines for Separating Garlic from Grain*.—Patent dated Decem-

ber 21, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Separating garlic from grain by passing the same between crushing rollers, in the manner, substantially as shown and described, that the garlic seed and kernels of grain will be crushed separately between the rollers, and the crushed grain allowed to descend into a proper receptacle, while the garlic seed, on account of the moisture or juice they contain, adhere to the rollers and are scraped therefrom.

No. 20,490.—FRANKLIN B. HUNT, of Richmond, Ind.—*Improvement in Machine for Grinding and Cutting.*—Patent dated June 8, 1858.—This invention embraces the arrangement in the same machine of the two peculiarly constructed, hinged, adjustable troughs B C b, spring set-bar s s¹ s², and cutter or grinder shaft E, with spring-key e e and radial arms 6 7 8 9, whereby a machine is provided in which the operations of cutting straw, grinding apples, shelling corn, or cutting or slicing vegetables can be performed separately and at different periods.

Claim.—The arrangement in the same machine of the two peculiarly constructed, hinged, adjustable troughs or boxes B C b, spring set-bar s s¹ s², and cutter or grinder shaft E, with spring-key e e¹ and radial arms 6 7 8 9, substantially as and for the purposes set forth.

No. 19,688.—CALVIN DICKEY, of Mercersburg, Pa.—*Improvement in Machine for Cutting the Leaves from Sugar Cane preparatory to Grinding.*—Patent dated March 23, 1858.—This invention consists in having a series of cutters attached to a tubular flanch so as to form a hollow cutting cylinder, connected with a grinding or crushing mill, in such a way that the stalk of the sugar-cane will be drawn through it by the rollers of the mill, and the leaves cut from the stalk.

Claim.—The cutting device formed of the cutters a attached to a tubular flanch A, the whole being constructed and arranged so as to operate substantially as and for the purpose set forth.

No. 20,282.—BENJAMIN MACKERLEY, of New Petersburg, Ohio.—*Improvement in Toothed Cylinder for Grinding.*—Patent dated May 18, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—Producing a new manufacture in the shape of an improved toothed cylinder, by combining a properly perforated tube a with a series of teeth b b and the journal pieces c c, substantially in the manner set forth.

No. 20,279.—BENJAMIN F. LOVE and JAMES H. FRAZEE, of Shelbyville, Ind.—*Improvement in Horse-Powers.*—Patent dated May 18, 1858.—The nature of this invention consists in the application of a friction-wheel C to the disk of a tread-wheel A, so that a uniform force or power may be employed in giving motion to the fly-wheel E, at the same time retaining a perfect connexion in such manner that the axle of the friction-wheel may be moved in any direction, and its axle maintain its parallel with the axle of the fly-wheel.

Claim.—The method by which we combine the clamps B B with the bed-piece or main block A A, by means of the studs or trunnions c c and the concentric bearings D E and E D, substantially as described.

No. 20,257.—JEREMIAH DARLING, of Cincinnati, Ohio.—*Improvement in Horse-Powers.*—Patent dated May 18, 1858.—This invention consists of two or more independent endless chains or series of friction-rollers G, running in double-flanged tracks r, in combination with an endless apron B of peculiar construction.

Claim.—The independent and endless series of friction-rollers above described, in combination with the double-flanged track r and the peculiarly constructed endless apron B, for the purpose of preventing friction and for increasing the efficiency of the horse-power substantially as set forth.

No. 20,461.—THOMAS H. WILSON, JOHN E. WILSON, JAMES F. WILSON, and R. J. WILSON, of Athens, Ga.—*Improvement in Horse-Power.*—Patent dated June 1, 1858.—A series of driving wheels are fitted on to an annular tread or way A, and attached to radius axles D connected at their inner ends; a wheel E from which the power is taken being fitted on the driving wheels C, the latter wheels rotating the former one with an increased speed due to their combined forward and rotating movements.

Claim.—The annular tread or way A, wheels C, any proper number being used and attached to axles D, and the wheel E, the whole being arranged to operate as and for the purpose set forth.

No. 20,421.—MICAH GILLAM, of Troy, Pa.—*Improvement in Horse-Power.*—Patent dated June 1, 1858.—This is an improvement in that class of horse-powers in which a rotating inclined wheel is used for transmitting power from the animal to the machinery to be driven. It consists in stepping the shaft of the wheel in an adjustable bar or shaft, whereby the wheel may be placed in a horizontal position and the speed of the wheel thereby regulated.

The inventor says: I *claim* arranging or hanging the wheel B substantially as shown, or in any suitable way, so that the plane of its rotation may be variably inclined, for the purpose set forth.

I further claim the peculiar means shown and described for adjusting the wheel B, to wit: its axis or shaft D being stepped in the shaft E, to which the cross-tree F is attached, the cross-tree F being provided with friction-rollers G G and connected with a lever M, substantially as described.

No. 20,978.—WILLIAM RIDER, of Almont, Michigan, assignor to Himself and J. B. SWEETLAND, of Almont aforesaid.—*Improvement in Horse-Power.*—Patent dated July 24, 1858.—A right and left screw is placed on the shaft from which the power is taken, and arranged with worm-wheels and driving gear, whereby a simple device is obtained, and the requisite degree of speed transmitted from the driving shaft to that from which the power is taken with the least possible amount of friction.

The inventor says: I do not claim broadly a worm-wheel and screw, as that is a well known mechanical device.

But I *claim* the arrangement and combination, as shown and described, of the right and left screws J J¹, placed in the shaft K, in connexion with the worm-wheels I I, which gear into the screw J J¹, and are rotated from the driving wheel D by means of the gearing F G G.

No. 21,495.—GORGES HELY, of Rochester, Wisconsin.—*Improvement in Horse Ploughs*.—Patent dated September 14, 1858.—This invention has reference to the attaching of horses to the draught-arms of the power, and is designed for equalizing the draught of the several arms. Its nature consists in certain lever connexions between the several teams.

The inventor says: I do not claim the mere connecting the several teams, as such is not new.

But I *claim* the combination of the sliding levers D and the loose coupling bar E with the draught chains, substantially as set forth.

No. 22,079.—J. HERVA JONES, of Rockton, Illinois.—*Improvement in Horse-Power Draught*.—Patent dated November 16, 1858.—The nature of this invention consists in providing the sweeps A of horse-powers with levers B, whether straight or otherwise, so attached to them by fulcra *a a a a* that when the draught of the teams is applied to the levers at or nearly at right angles to them or to the sweeps, the inner ends of the levers shall, by means of the rods *c* or any other connexion, produce a movement to and from the centre of the horse-power. When the sweeps are in their places for operation, a flexible link D is placed upon or beneath them, immediately around the centre of the horse-power, and connected at its several corners to the inner ends of the rods *c*.

Claim.—The combination of the levers B B B B and the flexible link D D D D, in the manner and for the purpose set forth.

No. 22,360.—EDWARD M. FULLER, of Salisbury, N. Y.—*Improvement in Horse-Power for Driving Reciprocating Saws*.—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The connexion of the saw to the main body of a horse-power which is operated by the circular movement of the animal, and extending the reciprocating rod *o*, or its equivalent, from the main body of the machine across the track of the horse to the saw, in such a position as to allow the horse to pass over it; the parts being constructed, arranged, and operating substantially as and for the purposes set forth.

No. 19,976.—CYRUS AVERY, of Tunkhannock, Pa.—*Improvement in Gearing for Horse-Power*.—Patent dated April 20, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, first, forming the main wheel with a wide periphery, cast whole or in sections, so that any desired number of series of intermediate wheels may work within it, one series above

another, and each series to gear into the main wheel, thus enabling me, by slipping on or slipping off one or more series of intermediate wheels, to produce a very low, very high, or medium velocity.

Second. I claim the method by which the main wheel is kept in position, viz: by means of a thimble attached to the centre of the bed plate in connexion with the flanges upon the lower intermediate wheels, and by the flange upon the outside of the main wheel, in connexion with the circle around and above it, and by the pivot at the top of the main shaft.

Third. I claim the method by which any desired velocity is obtained, namely, by removing or adding one or more series of intermediate wheels, as described.

No. 20,368.—LEA PUSEY, of Wilmington, Del.—*Improvement in Governor for Horse-Power*.—Patent dated May 25, 1858.—In this invention there are attached to the arms which are secured to or project from the fly-wheel shaft, or the fly-wheel itself, loaded levers provided with friction blocks connected by a spring rod and fitted within a stationary rim, whereby the speed of the horse-power or other machine to which the governor is applied may be regulated as desired by a simple mechanical arrangement.

Claim.—The loaded levers $D D^1$, or sliding weights, provided with brakes h , connected by a spring and rods attached to an independent rotating disk, or rotating arms, or to the fly-wheel of the machine to which the device is applied, in combination with a stationary or revolving rim K ; the whole being arranged to operate as and for the purpose set forth.

No. 19,769.—JAMES GRANT, of Rochester, N. Y.—*Improvement in Horse-Power Machines*.—Patent dated March 30, 1858.—The nature of this invention consists in constructing the cap A with an open centre over the pinion B , and making the centre bearing or axis of the cap in the bridge-piece a ; and in making a double length pinion B , and a "female gear" in the hub of the bevel wheel C , to receive the lower end of the pinion, thus clutching it to the bevel wheel, whereby motion is transmitted from the planetary wheels D , through pinion B , to the bevel wheel C . The centre pin E is lengthened at the lower end, and has two bearings b and d .

Claim.—Making iron horse-powers with an open centre to the caps A and an adjustable or a fixed bridge-piece a , and making a double length or reversible pinion B , as and for the purposes specified.

No. 21,032.—JAMES A. STONE, of Rochester, N. Y.—*Improvement in Horse-Power Machine*.—Patent dated July 27, 1858.—The nature of this improvement is explained by the claim and engravings.

Claim.—The construction of the base when combined with the wheel I , to form a trussed arch, whereby not only is great strength secured, but the length of the shaft c and its consequent liability to vibration is lessened.

No. 19,408.—GEORGE E. BURT and GEORGE F. WRIGHT, of Harvard, Mass.—*Improvement in the Wheel and Axle Attachment of Horse-Powers, &c.*—Patent dated February 23, 1858.—B is a wheel attached to link A, by the bolt C passing through the thimble or hollow tube D; E is the pin to couple the sections together, and is kept in its place by the flanch F on the thimble D; and all are held in their proper places by the bolt C and the screw nut G.

The inventors say: We do not claim the method of chill-hardening cast iron, for we are aware it has been long known and used for boxes and other purposes.

But we *claim* the method by which the coupling pin E is held in its proper place by the flanch F on the thimble D, in combination with the bolt C, the thimble D, the wheel B, and the link A, substantially as set forth.

No. 21,474.—HARLOW H. THAYER, of Sandwich, Mass., assignor to JAMES A. WOODBURY, of Winchester, Mass., and S. A. WOODS, of Boston, Mass.—*Improvement in Journal Boxes.*—Patent dated September 7, 1858.—By this invention, as the journal revolves in the box, the surface of such journal will be lubricated by the sponge or wicking, or lubricator of the chambers *a a*; the amount of surface so lubricated will depend on the width of each chamber and its angular position with reference to the side of the box, or to the axis of the journal. When this invention is in operation a constant circulation of the oil from the trough to the journal, and from the latter to the former, will take place; nearly all if not the entire surface of the journal being thoroughly lubricated at the same time.

The inventor says: I *claim* the combination of two or any other suitable number of lubricating chambers *a a* and bearing surfaces *g g* with one trough or channel arranged below them as specified.

I also claim the combination of the intercepting chamber *d*, at each end of the box, with the oil trough *d*, the lubricator chambers *a a*, and the bearing surfaces *g g*.

I also claim making the opening of the chamber *d* of greater diameter than the journal, in manner and for the purpose as specified.

And, in combination with the intercepting chamber *d*, I claim the intercepting groove *f*, arranged in the cap B, in the manner and for the purpose specified.

No. 19,984.—JOHN DEUCHFIELD, of Oswego, N. Y.—*Improvement in Cooling and Drying Meal.*—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim forcing a current of air between a pair of mill-stones, while the same are in operation, for the purpose of keeping the stones in a cool state and preventing the heating of the grain; for such means, although not very efficient, have been previously used.

But I am not aware that parts arranged as herein shown, so as to allow the meal to be subjected to the blast during its entire, or nearly entire, passage from the stones to the bolts, and insure the perfect cooling and drying of the meal, have been previously used.

I *claim* therefore the arrangement and combination of the chests D J, shafts F K, elevators F¹, fan G, and spout I, substantially as and for the purpose shown and described.

No. 22,003.—JOSEPH H. DAVIS, of Woburn, Mass.—*Improvement in Mechanical Movement*.—Patent dated November 2, 1858.—A represents a frame in which the top and bottom journals *a b* are supported in suitable boxes or bearings. These journals are connected together as follows: On the upper journal *a* there is a spur wheel *c*, to which may be affixed on its underside a flat plate or disk *d*, to shield the parts below it from conflict with said gear *c*. To the underside of the gear or spur wheel *c*, and through the shield *d*, are hinged four arms *e e e e*, to each one of which the upper end of one of the bent arms B B B B is attached by a pivot or stud in the top of the bent arm, which enters a hole in the arm *e*.

Claim.—The arrangement set forth for transmitting power from any prime motor to a propelling gear or wheel, viz: through the intervention of a series of curved or bent and weighted arms, said arms working together and connected to the gearing at their ends, substantially in the manner and for the purpose set forth.

No. 19,807.—JOEL WOODWARD, of Philadelphia, Pa.—*Improvement in Mills*.—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the mode of the bush on the plate A A, running up inside of the balance ryne C C, in the manner and for the purpose set forth.

Second. And the mode of the lower stone K K working on a loose or balance ryne C C, that has a nut or breaker *v v* resting on or fastened to the top of it, and may work with or without a balance or upper bearing, as set forth.

Third. And the manner of the inside pot or teeth Q Q, made to raise and lower to open and close the aperture *r r*, by means of the lever W (or screw), to regulate the feed of the stones and grinding of the crusher or breaker, in the manner and for the purpose set forth.

No. 19,386.—GEORGE STRAUSE, of Boonsborough, Md.—*Improvement in Mill Bushes*.—Patent dated February 16, 1858.—This invention consists in adjustable segments C C situated in the centre of a brush block B. When put together, they compose a ring or tube slightly tapering on the outer side, so that by having the joints or spaces between one another somewhat open, and by moving the segments simultaneously up or down in the aperture of the brush block B made conical, the central aperture between them will be enlarged or contracted, thus loosening or tightening the brush around the spindle A.

The inventor says: I *claim* providing the bush segments with shoulders *d d*, arranged substantially as described, whereby all the segments are adjusted by moving either one of them by means of a single set screw.

I also claim bevelling the upper end of the segments, in the manner and for the purpose specified.

No. 19,727.—JOHN WELLS, of Baltimore, Md.—*Improvement in Mill-Bushes*.—Patent dated March 23, 1858.—The nature of this improvement consists in a plate P secured to the top of the bed stone B, having a depending perforated cylinder C embracing the outer surface of the collar through which the spindle S passes, the collar rotating with the spindle, which is free to move longitudinally through it.

The inventor says: I disclaim concentric rims, the one secured to the shaft and the other to the stationary portion of the system, as such is not new and does not constitute my invention.

But I *claim* the feathered spindle S and recessed flanged collar *a* resting upon plate P¹, in combination with plates P¹ and P, the cylindrical guide C depending from the latter plate, when said parts are arranged for joint operation substantially as set forth.

No. 19,421.—M. W. HELTON, of Bloomington, Ind.—*Improvement in Cider Mills*.—Patent dated February 23, 1858.—Motion being applied to the shaft B, the apples are thrown into the hopper F, and pass down between the cylinder C and the cylindrical portion of the shell A, and are ground into pumice by the teeth *c b*. The pumice is forced along by the screw D, and its discharge from the orifice *f* is resisted by the stopper E, which is acted upon by the spring *g*. This resistance of the stopper subjects the pumice to a pressure, and the juice is consequently expressed therefrom through the perforations *i*.

The inventor says: I do not claim separately the toothed cylinder C, for that is a common device for grinding apples.

Nor do I claim separately the screw D, for that is a well-known device, and is frequently used as a feeder or conveyor. But I am not aware that a taper screw has been used in connexion with a toothed cylinder and stopper for the purpose set forth.

But I *claim* the arrangement and combination, substantially as set forth, of the yielding stopper E, taper screw D, toothed cylinder C, and case A, for the purpose specified.

No. 20,220.—MICHAEL STEVENS, of Lucas, Ohio.—*Improvement in Cider Mills*.—Patent dated May 11, 1858.—A is the standing parts of the press and mill; B is the beam; *s s* are the screws; *c c* are cylinders or rolls, being indented so as to gear together; D D are the sides of the mill; *e e* are two clearers, hinged at the bottom of the sides of the mill, and which, extending upward, are bent forward so as to hook into the dents of the cylinders; as the cylinders revolve, each cog presses back the clearer, and a spring *i* is placed back of the clearer and presses it forward.

Claim.—The arrangement of the several parts for the purpose of "retaining the liquor," and in the manner set forth.

No. 21,874.—JOHN EIBERWEISER, of Cincinnati, Ohio.—*Improvement in Cider Mills*.—Patent dated October 26, 1858.—The nature of this invention consists in the construction and arrangement of the two cylinders *d* cutting and mashing the apples, by providing the one with knives at a distance of two inches from each other, the knives being three quarters of an inch high, and the other with flutes or channels

corresponding with said knives. The invention has for its object the cutting and mashing of the apples with the least possible power, and thereby obtaining, without any loss, the full amount of juice contained in the apples.

Claim.—The particular construction and arrangement of the two cylinders, constructed in such a manner as described.

No. 20,208.—CHARLES LEAVITT, of Cleveland, Ohio.—*Improvement in Corn Mills.*—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The manner of securing the revolving grinder P to the spindle F, by means of the collar L, wings L¹, cap and nut Q Q¹, when arranged as described; also the recess S in the outer casing B¹ in combination therewith, the adjusting and securing the grinder R in place by means of the outer casing B and B¹, and the diaphragm M upon which the grinder is superimposed in the manner specified; also dividing the surfaces of the two grinders into an unequal number of parts or sections for the purpose of bringing the several sections of the grinders successively into opposition, in the manner described and for the purposes specified; and also the diaphragm M, when arranged in relation to the support of the spindle F and grinder R, and the collecting and discharging of the meal at one point, as specified. These several devices I claim when arranged as described and applied to the purpose set forth.

No. 20,121.—BENJAMIN WINTER, of Buckingham Court-House, Virginia.—*Improvement in Corn and Cob Mills.*—Patent dated April 27, 1858.—This improvement has reference to that class of mills in which an inner vertical cone is made to revolve within an outer cone, shell, or case, the feed being from above, and the ground matter passing off below in its escape from between the cones which form the grinding surfaces.

Claim.—The combination of the adjustable bridge tree C, rollers *a*, inclined planes *b* on the base of the revolving cone A, and horizontal stopped disks *c d*, for action together, substantially as and for the purposes set forth.

No. 19,016.—EDWIN CLARK, of Lancaster, Pennsylvania.—*Improvement in Flouring Mills.*—Patent dated January 5, 1858.—The claim and engravings show the nature of this invention.

Claim.—In combination with the bolt I and hopper formed by the sides L M, the separate conveyors Q W and the slides *b d*, connected together and operating in the manner set forth, for the purpose of making such a separation of the ground material as will obviate the necessity of requiring the bolt to carry the material any further than is actually necessary to bolt it, to avoid all danger of clogging, whilst conveying the separate qualities to their exit or elevators, and prevent any possibility, by the perfect separation, of returning that which is too light to be reground to the stones, as explained.

No. 20,329.—EDWIN CLARK, of Lancaster, Pennsylvania.—*Improvement in Flouring Mills*.—Patent dated May 25, 1858, ante-dated February 2, 1858.—The nature of this invention relates to the more perfect separation of the different qualities of the ground material, which may be afterwards mixed to suit the operator or consumer, or may be rebolted, or reground and rebolted, and again separated, as may be required.

The inventor says: I am aware a series of valves and a circular division has been used in bolting machines; these I do not claim.

But I *claim* the valve or series of valves *b* with their perforations *c*, in combination with the apertures *d e* in the bolting chamber, so as to make said valves common to the three different transits of the ground material, substantially as described.

I also claim, in combination with the circular division *F*, the inclined planes *i*, for properly conducting that portion of the material that falls upon the space between them into its proper channel, as set forth.

No. 20,370.—CHRISTOPHER RANDS, of Peoria, Illinois.—*Improvement in Flouring Mill*.—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention

The inventor says: I *claim*, first, the combined arrangement of the upper and lower stories *C C*, reduced from their centre outward to mere rim-grinding surfaces, comparatively, two annular non-grinding plates *F F*¹, one or both concave, placed over the enlarged eye of the stones, and the horizontally revolving fan or blower *G*, arranged intermediately between the stones, and crossing vertically the space existing between the same, so as to force the grain, with a direct action, out of the grinding surface, and to give a direct blast, substantially as and for the purposes set forth.

Second. I claim the fan, when constructed with its blades radial and situated in the specified relation to the space existing between the stones, so as to give a direct blast, for the purposes set forth.

Third. In combination with the above, the arrangement for suspending the stones *C C*¹, consisting of rings *D*, each having four axes *c c d d* or *e e f f*, and one being arranged on the spindle of the stones, and the other between the standards of the frame, substantially as and for the purposes set forth.

Fourth. The combination of the spirally flanced revolving and sliding cylinder, friction wheels *M N*, and spindle *B*, substantially as and for the purposes set forth.

No. 20,972.—SAMSON WOLFF, of Vicksburgh, Mississippi.—*Improvement in Flouring Mills*.—Patent dated July 20, 1858.—By this invention any necessary additional weight can be given to, or any surplus weight removed from, the running stone in such a manner that said stone, although heavily weighted, will act with a pressure which can be counteracted by any peculiar resistance of the grain or other object between the stones, as in the event of clogging of the grain from too great moisture or ununiform distribution of feed, and in perfect delivery at the periphery of the stones; and consequently the flour will be kept

discharged in a cooled state, and the miller enabled to adjust his grinding surfaces to suit the amount of steam power he has on hand.

Claim.—Increasing or decreasing the effective grinding action or friction of the stones B B, without the necessity of changing the distance between the grinding surfaces, by having the spindle C of the running stone B¹ arranged between an unyielding but adjustable step D and a pivoted weighted yielding lever J J, in the particular manner specified, for the purposes set forth.

No. 21,062.—ROBERT J. BROWN, of Perry, Pennsylvania.—*Improvement in Flouring Mills.*—Patent dated August 3, 1858.—This invention relates principally to the bolting apparatus of flouring mills and the elevator and conveyors connected therewith.

The inventor says: I *claim*, first, the combination of cups without backs, with a perforated strap *d*, for the purpose of elevating and discharging meal in the manner set forth.

Second. The combination of a ribbed pulley *e* with a conveyor on the bolting shaft, in the manner and for the purpose specified.

Third. The arrangement of two, three, or more bolts within and concentric with each other, and upon the same reel shaft *g*, in the manner and for the purpose set forth.

No. 22,384.—IRA SPEIGHT, of Woodville, Mississippi.—*Improvement in Hominy Mills.*—Patent dated December 21, 1858.—The nature of this improvement consists in effecting the attachment of the upper stone A to the hollow spindle B by means of a left-hand screw C, and the lower stone D to the solid spindle E by means of a right-hand screw F; the left-hand screw attachment consisting of a metal female screw tapped thimble G fitted in the eye *a* of the upper stone, and a left-hand screw thread C cut on the hollow spindle; and the right-hand screw attachment consisting of a metal female screw tapped thimble H fitted in the eye *b* of the lower stone.

Claim.—Hanging mill-stones by means of right and left screws, substantially as and for the purposes set forth.

No. 20,784.—JOHN J. FEARRINGTON, of Pittsborough, North Carolina.—*Improvement in Mills for Cutting, Crushing, and Expressing the Juice from Sugar-Cane.*—Patent dated July 6, 1858.—This invention consists in the arrangement of the cutter C over the pressing rollers F G, which stand one over the other, and a conducting trunk H to direct the cut material from the cutter C to the presser roller F G, so that the expressed juice and the spent cane shall be separated from each other and each pass to its proper receptacle.

Claim.—In combination with the cutter C and the pressing rollers F G, the guiding trunk H and the dividing board I, the whole being arranged for cutting, conducting to the presses, pressing and separating the spent cane from the juices, as described and represented.

No. 20,102.—CHAUNCEY THOMAS, of West Newbury, Massachusetts.—*Improvement in Mill for Grinding Paint.*—Patent dated April 27, 1858.—In this invention, instead of using a hopper to receive the

semi-fluid material or paint to be ground, and to introduce it into the grinder, a force pump or its equivalent is used. The barrel of such force pump is shown at C, as affixed to and extended above, and made to open at its lower end into the rear part of the hollow grinding cone *a*; with this barrel C a piston D operates.

The inventor says: I *claim* the combination of the forcing pump (or its equivalent) with the grinder or mill for grinding paint, and so as to operate therewith, substantially as described.

I also claim the mode of combining the piston with the mechanism or means of elevating and depressing it; that is to say, by such a mechanical device or devices as will not only allow the piston to be elevated out of the pump, but swung laterally out of the way, or beyond the mouth of the pump, when receiving the material to be ground.

No. 19,541.—THOMAS BLANCHARD, of Boston, Massachusetts.—*Improvement in Mills for Reducing Substances*.—Patent dated March 9, 1858.—The object of this invention is to reduce grain into meal or flour, and to effect this reduction of substances by a shearing action of two series of rotating disks *d*; and combining with the disks *d* one series of stationary eccentric plates *h h* for each series of disks, and interposed between the disks for the purpose of forcing the particles of the reduced substance from between any two of the disks and discharging it at the periphery.

The inventor says: I do not wish to be understood as claiming broadly the use of two series of circular disks on parallel rotating shafts, with the periphery of one series working in the spaces between the disks of the other series, except when arranged so as to have a mode of operation such as I have invented and described.

I *claim*, in the construction of mills for reducing substances, the employment of two series of rotating shears, constructed substantially as described, combined with each other and with a suitable hopper for the supply of the material to be reduced, and having a mode of operation substantially such as described.

And I also claim, in combination with the two series of rotating shears for reducing substances, substantially as described, the two series of eccentric clearers, substantially such as described.

No. 21,340.—JEREMIAH HOWARD, of New York, N. Y.—*Improvement in Mills for Sugar-Cane*.—Patent dated August 31, 1858.—This invention consists in applying, by suitable means, hydraulic pressure to the lower rollers of a crushing mill, so that the rollers will be allowed to yield or give, and the space between them and the upper roller regulated according to the work to be performed, thereby insuring the mill against fracture and causing it to work more efficiently than usual.

Claim.—The employment or use of a pump G, water reservoir F, and valve J, in connexion with necessary pipes H I and cylinders E, provided with pistons *d*, acting on the bearing of the roller or rollers, the whole being arranged as shown, or in any equivalent way, so as to operate as and for the purpose set forth.

No. 20,288.—HENRY MEYER, of Bridgeton, New Jersey.—*Improvement in Mill for Treating Chinese Sugar-Cane*.—Patent dated May 18, 1858.—This invention is a combination of expanding strippers with a system of rollers, and an arrangement of the latter with certain strips and a revolving knife, the whole being designed for the purpose of stripping the leaves from the stalks of the Chinese sugar-cane, prior to their being submitted to the rollers, and for the purpose of cutting the spent stalks into suitable lengths to be used as fodder for cattle.

The inventor says: I do not claim separately the expanding strippers, the system of rollers, or the revolving knife, as each of these devices has been used in other machines.

But I *claim*, first, the arrangement, substantially as described, of the rollers H I and J, the strips *a f* and *b*, and the revolving cutter *n*, for the purpose specified.

Second. The expanding strippers U in combination with the rollers H I and J, the same being arranged in relation to each other as and for the purpose set forth.

No. 19,251.—JAMES J. JOHNSTON, of Alleghany, Pennsylvania.—*Improvement in Grain Mills*.—Patent dated February 2, 1858.—This invention consists in the arrangement for feeding grain in at the hub of the stationary bar, and also in the arrangement for gathering, bolting, and separating the flour.

Claim.—First. The use of the pin *c* on the revolving bar, for the purpose of operating the bolting sieve *f* and spring rod *e*, as described and set forth.

Second. The arrangement of the hopper *k*, spring rod *e*, hollow hub *l*, and feed screw *d*, as described and for the purpose set forth.

Third. The arrangement of the recess 5 in the bars and flange X on the stationary bar, for the purpose of forming the gathering chamber *o*, as described and for the purpose set forth.

Fourth. The arrangement, in the face of the bars, of the recess with the blank surface marked S, in connexion with the arrangement of the teeth or cutters and rubbing surface *p*, as described and for the purpose set forth.

Fifth. The arrangement of the spring *y*, the bolting sieve *f*, with the recess 1 and 4, and the chutes *s t* and *r*, as described and for the purpose set forth.

No. 19,441.—PHILANDER PERRY, of Troy, N. Y.—*Improvement in Grain Mills*.—Patent dated February 23, 1858.—In figure 1, A A¹ is the frame, B B¹ is the fly-wheel, C is the shaft that supports the eccentric plates, E is the gearing shaft, F is the feeder, G G¹ are eccentric plates or disks revolving in opposite directions, arranged on the shaft C. The eccentric plate G¹ makes two revolutions while the plate G makes one; D D¹ D² D³ is the gearing arranged upon the fly-wheel B B¹, and shaft E, and the plate G¹. The cog-wheels D¹ and D² are one-fourth the size of the fly-wheel B B¹; the wheel D is twice the size of the small wheels D¹ D².

The inventor says: I *claim*, first, the arranging two eccentric plates

or disks upon one shaft, both plates revolving in opposite directions, for the purposes specified.

Second. The arranging an eccentric cone upon an eccentric and revolving plate, in connexion with crackers placed within the concave surface of the convex receiver, for the purposes specified.

Third. The manner of arranging the gearing upon the fly-wheel and eccentric plate, for the purposes specified.

Fourth. The arranging a stationary hopper on an eccentric and revolving plate, for the purpose specified.

No. 19,093.—BURTON W. LEONARD, of Bridgeport, Conn.—*Improvement in Grinding Mills*.—Patent dated January 12, 1858.—In the engravings figure 1 is the spindle, with bail and step connected, passing through the bed-stone O. Figure 2 is the bed-stone as hung in the frame. Figure 3, the bottom step or cup.

Claim.—The arrangement for connecting the bail or carrier to the spindle; also the manner of hanging the bed-stone in the frame by means of a universal joint or balance; also the manner of constructing the step and oil cups, as set forth and described.

No. 19,289.—HENDRICK V. DURYEA, of Fulton, N. Y.—*Improvement in Grinding Mills*.—Patent dated February 9, 1858.—The rollers B and C are constructed by casting of metal in two parts, D and E, each being hollow and having a bearing for the shaft F at both outer and inner ends of each part, making four in all; the two parts D and E are connected by the shaft F running through all four of the bearings, and by the rods H lengthwise through the parts. Near the end of each cylinder there is a groove I to receive the end boards J of the hopper A. The sideboards K of the hopper are made to rest upon the upper surface of the cylinders; the ends being expanded at L, the hopper is firmly held in contact with the cylinder.

The inventor says: I *claim*, first, the method, substantially as described, of constructing metallic rollers for grinding mills, when the parts of each roller are connected by the contraction of metallic rods, as set forth.

Second. I also claim the method, substantially as described, of attaching the hopper A with the rollers B and C, for the purpose mentioned.

Third. I also claim the described method of attaching hoppers, in combination with rollers, constructed as set forth.

No. 19,521.—HOSEA SOUTHWICK, of Little Cooley, Pa.—*Improvement in Grinding Mills*.—Patent dated March 2, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the friction rollers on which the main shaft runs.

I *claim* the mode of grinding all kinds of grain into flour and meal with a perpendicular stone fitting into a stone concave, and a counter-stone or crusher on the top of the runner near the upper end of the concave; said counter-stone or crusher is to crush the grain before it drops between the runner and the concave, thereby grinding faster and with much less power than common mills.

No. 19,587.—GELSTON SANFORD, of Poughkeepsie, N. Y.—*Improvement in Grinding Mills*.—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: The particular improvement which constitutes my invention, and which I *claim*, is giving the edges of the plates D and E, having a longitudinal and lateral motion with reference to each other, the notch form described, or its equivalent, by which the breaking of the coarser particles and their introduction between the plates is insured, substantially as set forth.

No. 19,559.—RENSSELAER D. GRANGER, of Philadelphia, Pa.—*Improvement in Grinding Mills*.—Patent dated March 9, 1858.—The burrs being set in motion by turning the shaft H, the grain will drop through the orifices *c c*, and, being acted upon by the grinding surfaces of the shell B and burrs, will be reduced to the required consistency and be dropped into the box A. As the outer burr C moves over more space in the same time than the inner burr D, the orifices *c c* must be larger than those of the latter.

The inventor says: Without laying any exclusive claim to the employment of two or more grinding cones, and without confining myself to any particular number of such cones,

I *claim*, first, so constructing grinding mills having any convenient number of annular, concentric, grinding cones that each cone shall have its own hopper communicating with the general hopper and its own set of feed openings, substantially as set forth and for the purposes specified.

Second. The combination of the bridge-tree G as secured to the shell B, the burr shaft F with its pinion I, and the shaft H with its wheel J, when each is arranged in relation to the other substantially as set forth and for the purpose specified.

No. 19,826.—DAVID E. BREINIG, of Philadelphia, Pa.—*Improvement in Grinding Mills*.—Patent dated April 6, 1858.—This invention relates to mills for grinding paint, printers' ink, drugs, grain, and other materials; and consists in constructing the shell and burr with their upper surfaces cone-shaped, with inclined sides terminating in a horizontal grinding surface, in combination with arms for directing the material towards said grinding surfaces; and also, in combination with the above mentioned form of grinding surface, a scraper, whereby the ground material is allowed full liberty to escape and is yet prevented from falling off.

The inventor says: I *claim*, first, the upper portion of the grinding surface of the shell and burr cone-shaped, with inclined sides terminating in a horizontal or curved grinding surface, in combination with the deflecting arms *n* and *p*, or their equivalents.

Second. The shell and burr, formed as above described, in combination with the scraper W, sliding segment N, and pinion P, arranged and operating substantially as described.

No. 20,310.—SALVADORE VASCOV & ADOLPH GUIRAND, of Cincinnati, Ohio.—*Improvement in Grinding Mills*.—Patent dated May 18, 1858.—The nature of this improvement consists in the combined arrangement of parts composing the mill. *a a* is the general frame-work of the mill. *B* is a French burr stone mounted on the shaft *J* and attached firmly to it, so that the stone can be revolved by a belt working over the pulley *h* on the end of the shaft *J*. *CC* is a concave piece made of French burr stone and attached to the frame-work *d d*.

Claim.—The combined arrangement of the breaking rollers *c¹ c¹* with the cylindrical grinder *B* and concave *CC*, when the whole is constructed as described, for adjusting the cylinder and concave apart, as described, for grinding.

No. 20,692.—BACKUS A. BEARDSLEY, of Waterville, N. Y.—*Improvement in Grinding Mills*.—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that conical or semi-spherical shells, toothed both on their upper and lower surface and encompassed by toothed cases, have been previously used.

And I am also aware that rotating toothed shells, perforated to allow the bark to pass through, have been used, for such device was previously patented by me, the letters patent bearing date February 4, 1843.

But I am not aware that conical or semi-spherical toothed shells have been used in connexion with stationary arms and toothed cases, and arranged as shown, so that any number of shells may be used and the mill made of any desired grinding capacity, and at the same time rendered capable of being operated with a comparatively moderate expenditure of power, and also rendered capable of being graduated to grind fine or coarse, as desired.

I do not claim, therefore, any of the described parts, separately considered.

But I *claim*, first, the alternate combination of grinding shells *C* & *G* with shells *F I*, the shells *C G* having a smaller diameter or curve than the shells *F I*, so that, by merely duplicating the above parts and employing them in connexion with cases *D H*, as shown and described, the capacity of the mill is correspondently increased.

Second. I claim providing the shell *G* with a guard *a*, which fits into a rebate *b* in the upper part of the case *D*, so that shell *G* may be moved vertically at pleasure without the escape of the contents of the mill between the edges of said shell and case, substantially as described.

No. 20,734.—WILLIAM SCARLETT, of Kenosha, Wisconsin.—*Improvement in Grinding Mills*.—Patent dated June 29, 1858.—This invention consists, first, in a novel arrangement of certain parts whereby these parts are connected in the simplest possible way, and the construction of the mill rendered very simple, and the principal bearing of its working parts kept continually in a lubricated state. Second, the peculiar device with which ears of corn may be crushed with a moderate expenditure of power. Third, an adjustable feed plate is

used, placed within the hopper, so as to regulate the supply of small grain to the mill and prevent the choking and clogging of the same.

The inventor says: I do not claim broadly the screw rod with nut at the top for adjusting the grinding surfaces; nor do I claim broadly the employment of crushing knives or blades above the grinding surfaces.

But I *claim*, first, the combination of the screw rod B *f* J, thimble *c g*, and separated hubs E K *e m n o*, in the particular manner shown, and for the purposes described.

Second. The arrangement of the conical feed plate in the bottom of the hopper, loosely over the central box of the central screw, and so as to be adjusted vertically by means of set screws, independently of the crushing and grinding devices, in the manner and for the purposes set forth.

Third. The arrangement of the cutters *g* so that their vertical edge shall only nearly touch the horizontal edge of the cutter S, and thus insure the crushing of the corn, &c., between the same at a point near the centre of the mill, substantially as and for the purposes set forth.

No. 20,941.—GERRETT ERKSON, of New York, N. Y.—*Improvement in Grinding Mills*.—Patent dated July 20, 1858.—This invention consists in combining with and attaching to two eccentric rotating plates *j* and *m* having the same axis of rotation and turning in opposite directions, or in the same direction but with different velocities, and whose contiguous surfaces are formed or otherwise prepared for grinding and reducing substances, a male and female nut, one within the other and concentric with each other, for the purpose of breaking or crushing the substances which are passed between and finally ground or reduced between the surfaces of the eccentric plates.

Claim.—Combining with the two eccentric grinding plates having the said axis of rotation, substantially as described, a male and female nut, concentric with each other, and attached to and rotating with the eccentric plates, as set forth, and for the purpose specified.

No. 19,060.—EZRA FAHRNEY, of Deep River, Iowa, assignor to JOHN DONALDSON, of Mount Morris, Illinois.—*Improvement in Hominy Mills*.—Patent dated January 5, 1858.—The nature of this improvement is shown by the claim and engravings.

The inventor says: I wish it to be distinctly understood that I make no claim in this application to an intermittent feeding and discharging device for hominy machines having two slides, one arranged at the top and the other at the bottom of the cylinder, said slides being operated alternately by a cam-wheel driven by a worm-wheel and screw-shaft, as such an arrangement was patented by me in 1855.

But I *claim*, as an improvement on the mill patented to me on the 15th of May, 1855, the employment of two self-closing hinged flap valves *i m*, one at the top and the other at the bottom of the cylinder A, in combination with a ratchet C arranged loosely on the hub of the cylinder, and having two pins *g h* on its face, and being actuated

slowly by a pawl *f*, which is connected with a crank shaft E by means of a vertical rod G and jointed elbow lever *d e*, as and for the purposes set forth.

No. 19,297.—PHILIP HOMRIGHAUS, of Royalton, Ohio.—*Improvement in Hominy Mills*.—Patent dated February 9, 1858.—The operation of the mill is as follows: The sliding bottom M of the hopper L being first closed, the hopper is filled with corn, and water added to dampen it, any unabsorbed water passing off by means of the trough M K. The shafts A B are then set in motion, and corn admitted into the cylinder by withdrawing the gauge board M to any extent desired. The upper shaft A, rotating at greater speed than the lower one, causes greater friction upon the corn, and equalizes the labor performed by the two shafts. The swinging side D of the cylinder is then thrown back, when the hominy, falling into the conveyor trough, is by the conveyor J forwarded to the action of the fan I, by means of which the husks, eyes, &c., are impelled forward and deposited in the box S, while the clean hominy passes down the spout Q into the box T.

Claim.—The construction of the gauge plate M, when used in connexion with the hopper L and trough K, substantially as and for the purposes set forth.

No. 19,691.—FREDERICK E. DAKE and JOHN W. TEAL, of Indianapolis, Indiana.—*Improvement in Hominy Mills*.—Patent dated March 23, 1858.—A is a hopper, into which the corn is placed and is fed by the shoe B. C is an upright shaft, upon which are the disks D D D D, separated by the blocks E E E E. F is a pinion, gearing into the wheel G, which is upon the same shaft with the pulley H. I I I I are wings or beaters, designed to throw the corn from the centre. K K are fans, designed to draw a current of air down through the mill. L L L are openings through the disks D D D D. M is a spout for the hominy, and N a spout for the meal.

Claim.—The combination and arrangement of the perforated disks D D D D with the fan K K, when constructed and arranged substantially in the manner and for the purposes set forth.

No. 20,327.—JAMES M. CLARK, of Lancaster, Pennsylvania.—*Improvement in Hominy Mills*.—Patent dated May 25, 1858.—In the operation of this invention, the material, after being ground at the stones, passes down the spout K and into conveyor E, and is carried by conveyor E into the elevators G¹, and up the elevators into the short conveyor case B, and through the conveyor case by conveyor D into the superfine bolt A.

The inventor says: First. I *claim* the arrangement of the apertures T and *i* in the conveyor case M with the slide-valve O, constructed and operated as set forth.

Second. I claim the combination of the movable or stationary conveyor with and formed on the shaft of the bolting reel, for the purpose of conveying the material into the bolt to any required distance, to effect the object fully specified.

No. 21,184.—JACOB P. BRADY, of Mount Joy, Pa.—*Improvement in Mill Pick Holders*.—Patent dated August 17, 1858.—Figure 1 is a perspective view of this invention; A is the double socket, with its handle C and two double-wedged picks B B in place.

Figure 2 shows the double socket, which may be hollowed out at, as shown at *b b*, or left fall in a line with *e e* the bit holders and *c* for the handle C at D.

Claim.—The double-socket pick holder, when constructed as described, and used in combination with the diamond-shaped picks, in the manner and for the purposes set forth.

No. 19,696.—DAVID H. GAGE, of Dover, N. H.—*Improved Grinding Attachment to Pug Mills*.—Patent dated March 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The combination of the double series of rotating arms E E and F F with the stationary arms *d d* and the dish-shaped grinder C, when the said parts are so shaped and arranged as to operate in conjunction with each other, substantially as set forth.

No. 20,012.—LORING W. WILLIAMS, of Nevada City, California.—*Improvement in Quartz Mills*.—Patent dated April 20, 1858.—The nature of this invention consists in constructing the inside bottom of a circular battery of a series of inclined planes, or curves, commencing at a common base and produced to any required height, and over and in contact with which the stampers or wheels move, and by means of which they are alternately raised and let fall.

The inventor says: I do not claim the circular battery, that being by no means new.

But I *claim* constructing the inside bottom of circular batteries (in which quartz is to be crushed) of a series of inclined planes or curved surfaces, commencing at any desired base and produced to any required height, and over and in contact with which stampers or wheels are made to revolve, and by their revolution over such inclines are alternately raised and let fall, substantially in the manner and for the purpose described.

No. 20,161.—JOHN C. KELLY and AMOS FROST, of Edinburg, Ind.—*Improvement in Smut Mills*.—Patent dated May 4, 1858.—A represents the hopper; *c* the aperture through which the grain descends; *b b* and *d d* are partitions which form the air passage F; R is the beater encased within two drums *e e* and *f f*; C is an air chamber above the fans; P is the driving shaft, having secured to its upper extremity the beater R; B B are fans secured to shaft P; H H H are triangular blocks for the purpose of scattering the grain; *a* is a spout forming a connexion between the scourer and the air passage D¹.

The inventors say: We *claim*, first, the arrangement of the hopper as constructed with the air passage F, in the manner herein set forth and for the purpose described.

Second. We claim the peculiar arrangement of the scourer as constructed with the air passage D and C, connecting spout *a* and fan B,

for the purpose of separating the smut from the wheat, as fully set forth.

No. 21,199.—GIDOEN HOTCHKISS, of Windsor, N. Y.—*Improvement in the Mode of Securing and Adjusting the Steps of Mill Spindles*.—Patent dated August 17, 1858.—The nature of this improvement will be understood by an examination of the claim and engravings.

The inventor says: I *claim* the double fulcrum lever operating outside of the shell *F*, and over the base, resting on two raised fulcrums *j* on the shell fitted to said levers *b*, and the suspending the sway bar and pot by means of sway bolts passing through said lever in the manner described; also the flanges *e e* on the bottom of the pot.

I also claim the manner of supporting the regulating screw on an adjustable base *L* or safety lightener, by which the stones can be quickly raised and returned again to the same position, substantially as described, in combination with the foregoing arrangement.

No. 20,083.—GABRIEL NATCHER, of Indianapolis, Ind.—*Improvement in Millstone Dress*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

I *claim*, 1st. The lines *a* upon the upper portion of the inclined plane of the furrow.

2d. The curved or retarding lines *C* upon the breast circle.

3d. The parallel or uniform lines upon the whole surface, running straight or at any desired curve.

4th. The combination and arrangement of the various parts above described, making up the complete dress of the millstone, when arranged and operated substantially as set forth.

No. 20,084.—GABRIEL NATCHER, of Indianapolis, Ind.—*Improvement in Millstone Dress*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The application of the diamond in the production of the small lines in any required form upon the face of millstones for dressing the same.

No. 20,029 —FRANKLIN BELLINGER, of Lockport, N. Y.—*Improvement in Millstone Dress*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The furrows *C* cut into the stones tangentially with the eye *B*, and gradually diminishing, both in depth and width, from the eye to the periphery where they terminate in points, the space between the circle *a* and eye *B* of the runner *A* being inclined or made open, substantially as and for the purpose set forth.

No. 20,462.—SAMSON WOLFF, of Vicksburg, Miss.—*Improvement in Millstone Dress*.—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Dressing millstones with elbow-shaped furrows, *A* and *B*, which are partly concave in their transverse section or curved as shown at *a*, and partly bevelled in the same section as shown at *b*, and

so constructed that all the feather edges *c c* of the main furrows radiate from the centre of the eye *B* of the stone, and that the elbows *d d*, or commencement of the angles, are at a point nearer the circumference than the eye of the stone, substantially as and for the purposes set forth.

No. 20,950.—GEORGE W. LOY, of Jefferson, Texas.—*Improvement in Millstone Dress*.—Patent dated July 20, 1858.—This invention consists in having one stone provided with straight tangential furrows, and the other with curved furrows, whereby the millstones are rendered much more efficient in their operation than by the ordinary dress most generally employed.

Claim.—Having the two stones *A B* provided, respectively, with straight and curved furrows, disposed or arranged as shown and described, for the purpose set forth.

No. 22,356.—JOHN FAIRCLAUGH, of Louisville, Ky.—*Improvement in Balancing Millstones*.—Patented December 21, 1858.—This invention relates to an improved arrangement of adjustable weights, which are fitted in the upper stone, or runner, in such a manner that the stone may be perfectly balanced on its spindle, both as regards its gravity or weight, and the centrifugal force generated by its rotation.

The inventor says: I am aware that adjustable weights have been previously used on millstones, and I therefore do not claim broadly such feature.

But I *claim* the arrangement of the cylinders *I* within the boxes *H*, the former being provided with tubes *e* having screwthreads on their outer and inner surfaces, and provided with screws *g*, and the cylinders provided with projections *l* which fit in the grooves *m* of the boxes, as and for the purpose set forth.

I also claim the plates *b* and bottoms *j* of the cylinders *I* when screwed on the tubes *e*, and used in connexion with the nuts *k*, substantially as and for the purpose specified.

No. 19,273.—ISAAC WHISSEN, of Mount Jackson, Va.—*Improvement in Dressing Millstones*.—Patent dated February 2, 1858.—The nature of this improvement will be understood from the claim and engravings.

Claim.—The construction of a mill dress, having a central sloping draught circle *ff* with para-centric curves proceeding therefrom, and terminating in main and branch furrows *I J* 2, *K K L*, formed by the mathematical divisions, subdivisions, and especial angular calculations, substantially as shown and described.

No. 19,156.—WINSER SMITH, of Princeton, Iowa.—*Improvement in Feeding Millstones*.—Patent dated January 19, 1858.—As the stone *A* rotates, the cylinder *D* will be vibrated or moved up and down in consequence of the projection *c* passing over the inclined projection *d*, thus the eye will be prevented from choking or clogging as the grain is fed into it.

The inventor says: I do not claim the employment of a tube for conducting the grain through the eye of the rotating stone.

But I *claim* giving a jarring or shaking motion to the tube D, as described, for the purpose of preventing the clogging of the grain.

No. 21,330.—JOSEPH A. FORSMAN, of Cincinnati, Ohio.—*Improvement in Hanging Millstones*.—Patent dated August 31, 1858.—This invention relates to the manner of hanging and adjusting the bed-stone and runner to the frame and to each other.

A is the frame, the base of which is made to receive the bed-stone B. U is the runner. V is a ring, which is centrally hung in the eye of the runner by the drivers W, which drivers have a screwthread cut on them that works in either a nut or bush in the eye of the stone, so that said drivers may be screwed out when it becomes necessary to dress the runner or bed-stone.

Claim.—The combination and arrangement of devices for hanging and adjusting the bed-stone and runner to the frame and to each other, substantially as represented, and for the purposes set forth.

No. 20,818.—L. RACINE, of Joliet, Illinois.—*Improvement in Ventilating Millstones*.—Patent dated July 6, 1858.—This invention consists in having the eye of the runner or upper stone so enclosed that while the grain is readily admitted into the eye a perfectly air-tight blast passage is formed through the eye of the stone, between the stones and through the curb.

The inventor says: I am aware that a blast of air has been forced through or between millstones, in order to keep them in a cool state and to absorb the moisture which the grain may contain, and I therefore do not claim broadly forcing a blast of air between the stones. But I *claim* the arrangement and combination of the blast pipe N, curb D, flanch K, rim L, flexible bottom M, tube G, and exhaust pipe O, as and for the purposes set forth.

No. 16,124.—FREDERICK E. DAKE, of Indianapolis, Ind., assignor to Himself and THOMAS E. HUNT, of said Indianapolis.—*Improvement in Sugar Mills*.—Patent dated April 27, 1858.—A is a bed-plate firmly bolted to the platform K. C C are rollers in the frame B, which work upon the journals L L. G is a weight sliding upon the rod H for the purpose of increasing or decreasing the pressure produced by the lever frame D between the rollers C C and bed-plate A. N is a hopper or spout where the cane is fed to the rollers. I is a scraper to clear the crushed cane from the surface of the plate A. M is a trough to conduct the juice to the spout J.

Claim.—The combination and arrangement of the lever frame D, sliding weight G, and rollers C C, with the bed-plate A, when constructed substantially in the manner and operated for the purpose set forth.

No. 21,601.—SAMUEL L. DENNEY, of Lancaster county, Pa.—*Improvement in Sugar Mills*.—Patent dated September 28, 1858.—The respective movements of this sorghum or improved Chinese sugar cane mill are combined with the eccentric bearings, being connected together in such a manner as to effect the instantaneous enlargement

or diminution of the space between the rolls simultaneously with the movement of the lever F.

Claim.—The combination of the eccentric bearings R R, their arms c c connecting the rod D, lever F, sliding bolt g, hand-piece M, and arch H, or their equivalents, substantially in the manner and for the purposes set forth.

No. 19,545.—HAMILTON J. COX, Warren county, Ohio.—*Improvement in Sugar and Cider Mills.*—Patent dated March 9, 1858.—To operate this mill it must be fastened upon the top of a trough or box made for the purpose, and a lever attached to No. 2 for the horses. In grinding sugar cane, the cane is fed in between Nos. 2 and 3, and the bagasse escapes at No. 4. The cane is only to pass between the lower or smooth part of the rollers 2 and 3 and 2 and 7 to escape at 4, and the juice runs down in the box or trough below. In grinding apples, they are poured into the hopper 5, pass between the rollers 2 and 3, fall down in front into the trough.

Claim.—The combination of the several parts of a grooved roller cider mill, and the several parts of a smooth roller sugar mill, in manner and form described in the specification, forming a new combination of machinery for the purpose of grinding sugar cane and apples, the same being perfectly adapted to both without alteration.

No. 20,290.—CHARLES MOORE, of Trenton, N. J.—*Improvement in Chasing Mills.*—Patent dated May 18 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* making a chasing mill self-feeding, automatically and continuously, by means of one or more circular troughs which receive the substances to be ground or acted upon, and deliver them through the spouts on to the bed of the mill under the chasing wheels, substantially as described.

I claim the scraper I, so constructed and operated as to separate that portion of the material on the bed of the mill which is ground most, automatically and continuously, from that which is ground less, and deliver it to the discharge opening in the bed of the mill, substantially as described.

And in combination with a continuous automatic self-feeding apparatus, or a continuous automatic self-delivering apparatus, applied to a chasing mill, I claim a heated bed, so as to heat, grind, mull and mix the materials supplied to the mill automatically or without manual labor, at one and the same time, as described.

No. 20,540.—JOSEPH BARTHOLOMEW, of Dundee, N. Y.—*Improvement in Machine for Gathering the Toll in Grist Mills.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not confine myself to the precise arrangement of the parts as shown and described, for a modification of the same may be used and made to answer a good purpose; the valves, for instance, may be operated by a different arrangement of parts, &c.; the machine, however, would be substantially the same as regards its principle of operation.

What I *claim* is the employment or use of a rotating cylinder C provided with chambers D, and having valves or movable bottoms *a* so arranged and operated that as the cylinder rotates the grist will be conveyed to the hopper of the stones, or any proper receptacle, and the toll gathered or taken from the grist, substantially as described.

No. 19,605.—DAVID COLLINS, of Jersey City, N. J., assignor to Himself and W. L. HANFORD, of said Jersey City.—*Improvement in Dress of Stones for Hulling Mills*.—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim dressing hulling stones with radial or curved furrows.

But I *claim* the runner stone, dressed with the radial polygonal furrows 3 and 4 as specified, when combined with the bed-stone having radial furrows 1 1 and straight furrows 2 2, or their equivalents, substantially as and for the purposes specified.

No. 19,302.—THOMAS E. LITTLE, of Janesville, Wis.—*Improvement in Scrapers for Grinding Mills*.—Patent dated February 9, 1858.—This invention consists in having a series of scrapers attached to a rotating head placed on the curb, the scrapers being fitted in the space between the curb and runner, and as they pass around within the space clearing or scraping the ground meal, as it escapes between the stones, into the discharge pipe.

Claim.—The employment of the rotating head *b*, having rods *e* and scrapers *f* attached, said parts being arranged to revolve slowly around the runner at whatever speed the latter may be driven, substantially as and for the purposes set forth.

No. 20,384.—S. LLOYD WIEGAND, of Philadelphia, Pa.—*Improvement in Changing Rotary into Reciprocating Motion*.—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the oblique wheel adjustable in an axis transverse to the revolving shaft C.

Second. Giving a permanent lead to the motion by a permanent inclination of the wheel A in combination with a variable inclination.

Third. Conveying the vibratory motion to the rods by means of ball and socket or universal joints G, when said joints are used in combination with the frame.

No. 19,848.—FOREST H. HARWOOD, of Rushville, N. Y.—*Improvement in Converting Reciprocating into Rotary Motion*.—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the arrangement, substantially as shown and described, of a revolving eccentric ring or band B, with edge clips *a b* of a reciprocating rod, or its equivalent, for operation together, to produce a revolving motion from a reciprocating one, and the reverse, as specified.

And I further claim the combination with the reciprocating clips *a b* of the rod *D*, having a radial action to the ring shaft *A* of the endless band *B*, arranged eccentrically to its shaft, when said band is made of diminishing thickness in opposite directions from its dead points or portions for operation with the clips, in the manner and for the purposes set forth.

And, lastly, I claim connecting the revolving eccentric ring or band *B* that reciprocates the clips *a b*, or is revolved by them, with its shaft by or through the fly wheel, which aids the ring in passing its dead points or centres, whereby the fly wheel is braced by the ring, and more immediate relief is given to and generally diffused over the latter.

No. 21,565.—ISAAC CHAPMAN, of New York, N. Y.—*Improvement in Converting Reciprocating into Rotary Motion*.—Patent dated August 3, 1858.—This invention is an improvement in the mode of operating shafts. *A A* are the standards; *B B* the frames that support the main shaft *N*; *F F* is the double ratchet wheel, which is formed of two plates which are separated by a number of anti-friction rollers *i i i i* sufficiently far to allow the bearing *m*, plate 1, of the frame *C*, to play freely back and forth between the ratchet plates or wheels and on the rollers.

The inventor says: I do not claim the separate or individual parts of the described apparatus.

But I *claim* the ratchet wheel or wheels *F F*, in combination with the pawls 1 2 3, &c., arranged and operated by means of a parallel motion, in the manner substantially as described and shown.

I also claim the manner of throwing the pawls 1 2 3, &c., in and out of gear with the ratchet, while the power is in motion, by means of the levers *D d* and the parallel spring slide *e e'*, in the manner and for the purpose set forth and shown.

No. 20,980.—JOHN J. WEEKS, of Locust Valley, New York, assignor to SUSAN WEEKS, of Locust Valley aforesaid.—*Improvement in Converting Rotary into Reciprocating Motion*.—Patent dated July 20, 1858.—This invention consists in forming an arm *E* obliquely on a rotating shaft, and having a collar *F* fitted loosely on this arm, the collar having a rod *H* attached to it at right angles, and the lower end of the rod fitted loosely in an aperture in the slide *I*, to which a reciprocating movement is given from the shaft *D*, or a rotary motion given the shaft from the slide.

Claim.—Forming the oblique arm *E* on the rotating shaft *D*, and placing the collar or hub *F* with rod *H* attached on said arm, the lower end of the rod *H* being fitted in the slide *I*, substantially as and for the purpose set forth.

No. 19,726.—ISAAC VAN DOREN, of Somerville, New Jersey.—*Improvement in Reciprocating and Rotary Motion*.—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim, generally, changing recipro-

cating into rotary motion by means of the gearing B and rotating wheel A.

But I *claim* the arrangement of the wheel D and its projection *b*, as described, so that the wheel D shall be constantly rotated by the use of *d* and *b* alone, without springs, sliding cogs, or any other mechanism.

No. 19,586.—MATTHIAS STEIGERS, of St. Louis, Missouri.—*Improvement in Mode of Producing Vertical and Horizontal Reciprocating Motion*.—Patent dated March 9, 1858.—This invention consists in a new mode of imparting motion to machinery in a vertical and horizontal direction, and in a parallel line with a given plan, by means of a peculiar arrangement of double cranks or eccentrics, to which that part of the machine is attached to which such motion is intended to be communicated.

Claim.—So arranging and combining a series of eccentrics, or their equivalents, as to communicate to machinery a reciprocating motion in a vertical and horizontal direction at one and the same time, substantially as set forth.

No. 22,455.—HENRY MORRIS, of West Philadelphia, Pennsylvania.—*Improvement in Device for Transmitting Rotary Motion*.—Patent dated December 28, 1858.—The nature of this invention consists in the combination of two bevel gears, one of which has its teeth arranged in convolute form, and the other of which, gearing with the first one, has its teeth concentric to its axis; the latter being fitted to slide on its shaft, that it may, when geared with and driving or being driven by the first one, approach or recede from the axis of the same under the guidance of a convolute groove, which is formed between the convolute coils of teeth, and be thereby caused to receive from or impart to the first one a gradually diminishing or increasing velocity.

Claim.—The combination of the convolute gear A and convolute groove *b* with a sliding pinion or gear C, substantially as and for the purposes herein shown and described.

No. 21,934.—GERARD BANCKER and ANDREW CAMPBELL, of New York, N. Y.—*Improvement in Mechanism for Transmitting Rotary Motion*.—Patent dated November 2, 1858.—The nature of this invention consists in attaching to a frame of the crank-shaft an extension rod, having on its lower end a friction roller, over which, and another roller secured on the crank shaft, is arranged an endless belt or band. This is operated by means of a sliding clamping block on the extension rod, in combination with a double-acting clamping lever, the fulcrum of which is secured in the sides of the clamping block, so that as the outer end of the clamping lever is operated by a piston rod or other rectilinear motion, the clamping edges of the clamping lever alternately impinge one side of the belt against the clamping block, which, sliding up or down on the extension rod, causes the belt to rotate, and thus, by clamping alternately the opposite sides of the belt at each half-stroke of the piston-rod, keep up a continuous motion of the crank-shaft.

Claim.—The use of the combination of the sliding clamping block

G and extension rod C with the double-acting clamping lever, made and operated in the manner and for the purposes set forth.

No. 21,133.—WARREN HIDDEN and JOHN REEVES, of New York, N. Y.—*Improved Apparatus for Heating and Cooling Air, to be used as a Motive Power*.—Patent dated August 10, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Heating air in one section of a rotating or reciprocating cylinder A, and at the same time condensing the exhausted air from the engine in another section of the same cylinder, and at intervals changing the condensing section into a heater, and the heating section to a condenser, by revolving or reciprocating the cylinder so as to alternately have the upper section occupy the place of the lower section in a tank C¹ of water, and the lower section to occupy the place of the upper one in proper relation to a furnace flue *b*, substantially as and for the purposes set forth.

No. 20,701.—JOHN F. DUNNINGTON, of Washington, D. C., administrator of PETER DANIEL, (deceased,) late of Frankfort county, Kentucky.—*Improvement in Mode of Obtaining Motive Power*.—Patent dated June 29, 1858.—When the weight *o*¹ runs down, to set the other weight *o* at work, the wheel 4 is thrown in gear with wheel 3 by means of lever *i*, and then, by turning the wheel M in an opposite direction, the car E runs off to the other end of the track and relieves the weight of its power. While this weight is running down, the other weight is wound up in the same manner by means of the car on the other track.

Claim.—The arrangement of pulleys 1 2 6 7, wheels 3 4 5, lever *i*, belt or cord J, shafts S and S¹, and pulleys K K, with the cords F¹ F¹, weights *o o*¹, car E, railroad *e*, and the levers B B, pulleys P¹ and *f*, cord C, and wheel M, when all are operated in the manner set forth and for the purpose described.

No. 19,183.—ERASTUS T. BUSSELL, of Shelbyville, Indiana.—*Improvement in Machinery for Obtaining and Preserving Power from Trains while Passing Railway Stations*.—Patent dated January 26, 1858.—When the weight is wound high enough to lift the short arm of crooked lever 14 slightly it throws the foot of said lever above the ratchet hook J, so that until said weight runs down a little the said hook cannot be made to engage with the ratchet wheel *d*; *t* is a spiral spring, one end attached to the frame C and the other to lever *m*, so that when the pressure is removed from curved planes 6 6 its function is to restore all the parts to their proper places; this reaction is restrained within proper limits by the stop P on the lower side of the rod O, one end of which strikes against the rail nearest the machinery; *a a* is a wooded frame sustaining the pulley for elevating the weight.

The inventor says: As I am well aware that there is no novelty in running machinery by weight, no claim is laid on that score.

But I *claim* the catching or saving of power from a train of cars in its flight through the curved planes 6 6, and the appended mechanism or any other equivalent device, substantially as set forth.

No. 21,611.—ELISHA MATTESON, of Troy, N. Y.—*Improvement in Mechanical Powers*.—Patent dated September 28, 1858.—The operation of this invention is as follows: By rotating the wheel G in one direction, or in the other, the top of the shaft B is put in motion, and the plane of inclination changes. The weight F, which in consequence of its gravity is compelled to seek to place itself in that plane of inclination, will therefore follow up the top of the shaft in its rotation, and it will commence to rotate, and continue so long as the wheel G is kept in motion. In so moving, said weight will acquire a certain momentum, which is further increased by the centrifugal force developed by rotating the weight and the power gained by this momentum.

Claim.—The arrangement of the gearing L K J I M N H H, in combination with the shaft B, weight F, and wheel G, substantially as and for the purposes set forth.

No. 20,881.—CALEB S. HUNT, of Bridgewater, Massachusetts.—*Improvement in Machine Pulleys*.—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The construction and use of machine pulleys with the bearing or band surface made of cork, as described.

No. 21,156.—JOHN TALLON, of New Orleans, La.—*Improvement in Machines for Pounding Rice*.—Patent dated August 10, 1858.—C C are two posts; each of these posts is provided with two ribs S S, which form grooves on the insides of the posts for the ends of the cross-head C H to traverse in. This cross-head has an arm S A firmly fastened to it by being put through a hole in the cross-head. This arm is perforated perpendicularly at its outer end for the pounder P, which passes through it, and has a screwthread upon it, so as to be fastened to two nuts, one above and the other below the arm, so as to adjust and fasten it higher or lower as required. A wrist is formed of the cross-head for the upper end of the connecting rod C R, the lower end of which rod, to the wrist of the crank C K, arranged to turn in boxes on the posts C C.

Claim.—The combination of the pounder P, arms S A, cross-head C H, connecting rod C R, and crank C K, constructed and arranged to operate in relation to each other, as shown and described, and for the purposes set forth.

No. 21,913.—ROBERT P. WALKER, of New York, N. Y.—*Improvement in Machinery for Pearling, Polishing, and Finishing Rice*.—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the revolving cylinder *d* coated with emery and carrying the sectional rubbers of gum elastic or equivalent material, in combination with the hollow cylinder *f* revolving in the opposite direction to the cylinder *d*, for the purpose of pearling and polishing rice or grains in substantially the manner specified.

I also claim the cylinder *f* constructed substantially as specified, with alternate screens and emery surfaces to act in connexion with

the interior revolving cylinder *d*, to remove and pass away the douse and chits, as set forth.

No. 22,337.—WILSON AGER, of Rohrsburg, Pa.—*Improvement in the Mode of Cleaning Rice*.—Patent dated December 21, 1858.—The inventor says: In the engravings I show the mode of introducing the current of air to the mortar at M. Under the bottom is a pipe *a* communicating by pipe *b* with a condensing pump, and having branches *c c c* leading into the mortar through its sides, the ends of these branches turning upward and terminating in flattened orifices too small for the admission of the rice. A pipe *d* is also run up to the outside of the mortar, which is bent at the top so as to direct a current of air to the centre of the interior.

Claim.—An improvement in the mode of cleaning rice is the forcing of a current of air into or through the grain during the cleaning operation for the purpose set forth.

No. 19,637.—SIMEON HOWES, of Silver Creek, N. Y., and GARDNER E. THROOP of Chicago, Ill.,—*Improvement in Grain Separators and Cleaners*.—Patent dated March 16, 1858.—The shaft E being put in motion the fan produces a powerful current of air. The wheat or other grain passing from the hopper O, the spout N is subjected to the action of the upward current in K²; this takes up smut balls, chess, chaff, &c., and carries them over the plate M. The heavy but uncleaned grain passes by its gravity to the top of the revolving cylinder D, which distributes it equally by centrifugal force as it falls into the mill, where it is subjected to the action of the beaters, which drives the smut and dust through into the space between the shell and its casing B; it is then taken up through the tubes I into the fan case and discharged through H.

Claim.—The combination of the tubes I and the outer casing B, when so constructed and arranged in connexion with the fan case G, as to prevent the smut, &c., from coming in contact with the cleaned grain, as specified.

No. 19,629.—DANIEL M. DONEHOO, of Hookstown, N. J.—*Improved Separator and Smut Machine*.—Patent dated March 16, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the arrangement of a horizontal flaring blast spout F with a vertical spout G furnished with sliding adjustable screening gates formed of wire gauze and with separating partition H I, said spout also being arranged at right angles, or nearly so, to the horizon on the outer end of the blast spout, substantially as and for the purposes set forth.

Second. The arrangement of a vibrating shoe J, when made with two reverse incline shutes, one of which is adjustable, and made of wire or perforated plate, with the shute K, and with the screening and separating spout G and the scouring cylinder, substantially as and for the purposes set forth.

Third. The employment of radially fluted scouring plates J, hewn

shaped on top in the form of truncated cones, in combination with radially fluted stationary concentrated prismatic rings *e f*, substantially as and for the purposes set forth.

Fourth. I claim the particular arrangement shown and described of the screening and separating spout G, blast spout F, fan with valves, double reverse incline cockle shute J, peculiar scouring apparatus B, and dust spout M, for the purposes set forth.

No. 20,566.—WILLIAM JOHNSON, of Lambertville, N. J.—*Improvement in Adjustable Hanger for Shafting*.—Patent dated June 15, 1858.

The inventor says: What I claim is not the employment of a box with trunnions or pivots solidly attached thereto, nor a box movable by means of a ball and socket, nor the adjusting of the box in position, either vertically or laterally, by means of screws, or screws and nuts, with or without a vertical stem, carrying the box with it, nor in a particular proportion, size or shape (except in the particulars mentioned of any of the parts.) But it is the cylindrical instead of the globular form of the curved surfaces of the box, the axis of each cylinder (of which the opposite surfaces are parts) being at right angles to the other, and the axis of both being at right angles to the axis of the box or tube itself, so as to allow either pair of opposite plugs or blocks to serve as trunnions, or pivots, or centres, upon which the box or tube may turn or revolve longitudinally, and so that the action or pressure, or strain of or upon the box, in whatever direction or from whatsoever cause, shall always be perpendicular to the several surfaces of the box and of the plugs or blocks pressing against the same, and so that the plugs or blocks become so many perfect abutments, always acting perpendicularly and never obliquely against the point of resistance, thereby securing a greater degree of compactness, simplicity, and strength relatively to the weight of material and costs of construction than by other methods.

What I *claim* is the two pairs of cylindrical surfaces at right angles to each other and to the axis of the box, in connexion with the four plugs or blocks, each with a cylindrical curvature fitting to that of the box, and secured and adjusted by the four screws D D D D, the whole constructed and operating substantially as described and set forth.

No. 20,634.—WILLIAM B. DUNNING, of Geneva, N. Y.—*Improvement in Coupling-Box for Shafting*.—Patent dated June 22, 1858.—To use this invention the coupling F is put where a support is needed, and the coupling E where the shaft will more frequently require to be taken down to put on or take off wheels; and if a permanent coupling is required on one end of the shaft use the part D; the part D will be convenient when the shaft is used in a vertical position.

The inventor says: I *claim*, first, the coupling-box, substantially as and for the purpose specified.

Second. The means used for securing the same together, as described and set forth.

No. 21,640.—FREDERICK W. HOWE, of Newark, N. J., assignor to THE NEWARK MACHINE COMPANY.—*Improvement in Hangers and Boxes for Shafting*.—Patent dated September 28, 1858.—A is the hanger fastened to a beam or joist above by screws or bolts. It is open at the bottom, the arms being connected by the brace M. B B is the box for the shafting to turn in, resting on the oil box. E is the babbit metal which lines the box on the inside. F is the bolt supporting the oil box, by which the latter is suspended to the hanger.

The inventor says: I do not claim the self-oiling of the boxes, nor the adjustment of the boxes, nor do I claim by itself the device of a hanger open at the bottom, so as to receive the shaft and its box from below.

But I *claim*, in combination with such a hanger, the self-adjusting box in the manner set forth.

No. 19,340.—WILLIAM B. BEMENT, of Philadelphia, Pa.—*Improvement in Hangers for Shafting*.—Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim supporting a box or bearing for a shaft upon trunnions cast on the box, nor suspending the same upon the pointed ends of screws.

Nor do I claim the more common arrangement for holding the box, so as to allow an universal motion of the same by means of the ball and socket.

Nor do I claim adjusting the same vertically by means of a screw and two nuts, the former sliding up and down in a cylindrical tube.

I *claim* the construction of the single stem *k* carrying the box C, and so arranging it relatively with, and connecting it to, the hanger or support by bushing E, that the box and shaft shall have a co-operative self and universal line adjustment with each other, and the shaft have a universal position adjustment, so as to be moved readily to find any and every point or location within the required limits, and be secured therein, and that the line of the shaft may be placed and run above the support or below the hanger, to constitute it a long or short one, and also receive any and every line and self-adjustment positions within a complete horizon or circle, essentially in the manner and for the purposes set forth and described.

No. 20,800.—SIMON INGERSOLL, of Greenwich, Conn.—*Improvement in Rotating Shafts without using a Crank*.—Patent dated July 6, 1858. The nature of this invention consists in substituting in place of the crank a wheel with a groove in its side, in which is fitted a slide P, with its lever N, which is curved sufficiently to allow of its crossing the face of the wheel and not come in contact with its shaft. This rotary movement can be applied to any lathe, shaft, or any other thing where a crank is used.

Claim.—The lever N with its slide P or its equivalent, when arranged in the manner described and for the purpose set forth.

No. 20,104.—JEREMIAH TOBIN, of Newark, N. J.—*Improved Smut and Grain Cleaning Machine*.—Patent dated April 27, 1858.—This invention consists in the arrangement of a fan, blast passage, scouring device, and screws, whereby the cleaning of grain from smut and other impurities may be performed expeditiously.

The inventor says: I do not claim the scourer O, for that has been previously used.

Nor do I claim the screws C C, separately considered.

But I *claim*, first, the blast passage formed by the cylinder J and case K, arranged as shown in connexion with the rotating basin L or an equivalent device for the purpose of properly presenting the grain to the action of the blast in said passage, substantially as and for the purpose shown and described.

Second. The screws C C, fan I, scourer O, blast passage P, cylinder J, and case K, when combined and arranged to operate as and for the purpose set forth.

No. 19,860.—SAMUEL B. MANNING, of Alleghany, Pa.—*Improvement in Smut Machines*.—Patent dated April 6, 1858.—In the engravings *a* is the shaft or axis which is placed vertically in the centre of the machine. This shaft turns on two stationary pins *b b*¹, which are let into sockets, one at each end of the shaft. The smut machine or concave *c* is placed at the lower extremity of the apparatus. It consists of an upright cylindrical box, the sides of which are smooth externally but corrugated on the inner surface, excepting that there are in the spaces left in the concave slats *d d*, &c., set obliquely so as to leave openings for the admission of air into the smut machine.

Claim.—The use of a cone *l* placed above the distributing cup to prevent any eddy or interruption of the draught of air which would cause the deposit of the screenings and dirt in the cup.

No. 20,420.—JOHN GERMAN, jr., of Southfield, Mich., and S. R. PERKINS, of Pontiac, Mich.—*Improvement in Smut Machines*.—Patent dated June 1, 1858.—The operation is as follows: Motion is given the shaft B, and a draught or blast of air passes through the space *c*, and also through the cylinder C. The grain passes through the pipe G into the cylinder C, and is scoured by the rotation of cylinder F, the beaters *f*, and inner fluted surface of the cylinder C, which breaks the smut balls and scours off the dirt. The dirt and smut, as it is pulverized and loosened by the scouring device, is carried upward by the blast within the cylinder C into the fan box E, from which it is ejected by the action of the fan.

The inventors say: We are aware that smut mills have been devised so as to subject the grain while passing through them to two or more blasts; and we also are aware that rotating beaters and fluted cylinders have been used. But we are not aware that a fan has been used in connexion with rotating beaters and cylinders, so arranged as to form a simple, efficient, and economical device, as described.

We do not claim, therefore, separately and irrespective of their arrangement, the parts described.

But we *claim* the arrangement of an annular air space *c* between the cylinders C D, with openings *h j k*, as and for the purpose set forth.

No. 20,521.—DUNCAN M. VANCE, of Urbana, Ohio.—*Improvement in Smut Machines*.—Patent dated June 8, 1858.—The nature of this invention consists in the use of two rubbers *g h* made of wire cloth, and are placed one upon the other in an inclined position. They receive reciprocating motion by means of connexions with two opposite cranks. A seed screen *c* is also used, made of fine wire cloth, which is arranged in two inclined sheets which descend from the outside, and their approximate inner edge terminate in and form a slotted opening through which the screened grain is discharged and directed between the two rubbers at their upper end. It consists also in the use of a rotary fan which produces a blast of air.

The inventor says: I do not claim the air suction apparatus *e*, nor do I wish to be confined to its use in connexion with the other parts of my invention, for, though of advantage, it can be dispensed with, and external air be admitted directly into the ends of the fan case. Either one or both of the rubbers may have motion, though the best results are produced when both rubbers move in opposite directions.

What I *claim* is, first, the reciprocating wire cloth rubbers *g* and *h* in connexion with a rotary fan, constructed and operating substantially as described.

Second. The double inclined grain screen *c* combined with reciprocating rubbers, substantially as described and for the purposes set forth.

No. 21,202.—J. N. LESTER, of Oswego, New York.—*Improvement in Smut Machines*.—Patent dated August 17, 1858.—This invention consists in the employment or use of a series of rotating and stationary conical scourers placed within a proper case, the rotating scourers being placed on a hollow shaft, and the whole constructed and arranged relatively with each other and with a fan, whereby the grain will be thoroughly cleansed from smut, dust, &c.

The inventor says: I do not claim separately the parts described, for they or their equivalents have all been used under different forms of arrangement, and in connexion with various devices, forming the majority of smut machines in use. I am not aware, however, that sinuous scouring passages arranged with a fan, hollow shaft, cylindrical case, and induction blast spout, as shown, have been used.

I *claim* the rotating conical plates *F F*¹ *F*² attached to the hollow shaft *E*, in combination with the stationary conical plates *D D*¹ *D*², rims *C*, cylinder case *G*, and fan *I*, the plates *F F*¹ *F*² and *D D*¹ *D*² being provided with scouring ledges *l n*, and the whole arranged relatively with the fan *I*, induction spout *J*, and blast spout *K*, substantially as and for the purpose set forth.

No. 21,563.—HIRAM HOPKINS, of Evansville, Indiana.—*Improvement in Smut Machines*.—Patent dated September 21, 1858.—This invention consists in the use of a scourer peculiarly constructed, and used in connexion and arranged relatively with the blast spouts and

a fan, whereby the effectual cleaning of the grain from smut and other impurities and foreign substances is expeditiously performed and by a simple arrangement of means.

Claim.—The scourer constructed of the vertical bars F provided with radial projections *h* at their inner sides, and the arms H provided with ledges K, and attached to the shaft B, when said scourer thus constructed is enclosed by a box M, and arranged relatively with the blast spouts J K L and fan D, to operate as and for the purpose set forth.

No. 22,128.—HUGH MARSHMAN and CHARLES F. FOULKE, of Carlisle, Iowa.—*Improvement in Smut Machines.*—Patent dated November 23, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim*, first, the combination and arrangement of the casing D and funnel-mouth opening *d*, the parts being so arranged in relation to each other as to at the same time give a converging descent to the grain, and an inward partially downward blast through it at that point.

Second. The introduction of an auxiliary blast into the upper portion of the horizontal trunk J, as described, by which a more perfect separation of the light grain is secured, as set forth.

No. 22,395.—J. A. WOODWARD, of Burlington, Iowa.—*Improvement in Smut Machines.*—Patent dated December 21, 1858.—This invention relates to certain improvements on a smut mill and separator which was patented by the above named inventor October 20, 1857. The object of this invention is to effect a more thorough separation than formerly of the dust and other foreign substances from the grain before the latter is brought in contact with the scourers, and also to augment to a considerable degree the scouring device, as well as the part designed for the separation of the light or imperfect grain from the offal or foreign matter.

In operating this machine, power is applied to shaft F in any proper way, and a rotary motion is communicated therefrom to the shaft *a*, which, by means of the crank *v* and connecting rod *u*, gives a vibrating movement to the bar K and shoe J. The grain to be cleaned falls on the screen *a*¹ of the shoe J and passes through said screen, the large foreign substances passing off through spout *c*. The grain cannot pass through screen *b*¹, but is conducted by it to the cylinder H, and it falls into scourer E, being divided in its descent by the bar I.

Claim.—The arrangement of the wire cloth cylinder G, scourer E, deflecting or separating bar I, spout *f*¹, and shoe J, as and for the purpose set forth.

No. 20,683.—HENRY F. READ, of Brooklyn, New York, assignor to Himself and SAMUEL J. BURR, of said Brooklyn.—*Improvement in Stuffing Boxes.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: I *claim*, first, the metallic rings *r r r* placed upon the shaft A for the purpose of protecting from friction the shaft and flexible tube C, within which said wings are placed.

Second. The arrangement of the flexible tube on the outside of the

metallic rings, so as to allow said flexible tubing to give or twist equally its whole length, and also to carry with it each ring a proportionate distance according to the distance travelled by the shaft.

Third. In combination, as described, the thimble E as used for the purpose of packing the joint at the end "g" of the outside case D, and at the same time holding permanently one end of the flexible tube.

Fourth. The combination of the flexible tubing and the metallic rings working together on the shaft, together with the metallic casing D, substantially in the manner described and for the purposes set forth.

No. 21,139.—JESSE LANTZ and JOHN RUSSELL, of Wheeling, Virginia.—*Improvement in Machines for Cleaning Wheat*.—Patent dated August 10, 1858.—The claim and engravings will give the reader an idea of the nature of this invention.

The inventors say: First. We *claim* the additional air tube or arch F, in connexion with the air tube or arch E, for the purpose of receiving the wheat through an aperture in pipe F, above the hopper V, and from the hopper G, as described.

Second. We claim the adjustable reeded rubber o, combined with the flange rubber i, constructed and operating as and for the purposes described.

No. 20,318.—GEORGE W. BARNETT, of Springfield, Ohio.—*Improvement in Driving Wheels for Portable Steam Engines and Agricultural Implements*.—Patent dated May 25, 1858.—This invention consists in providing the periphery or tread of the wheels with one or more series of radial feet a in such a manner that they will gradually yield by compression as the wheel advances, and again project as the resistance is removed.

Claim.—Providing a wheel with one or more series of radial elastic feet, in the manner and for the purposes substantially as set forth.

XIV.—LUMBER.

No. 22,195.—MARTIN NORRIS, of Broad Brook, Connecticut.—*Improved Auger for Wood*.—Patent dated November 30, 1858.—A represents an ordinary half-inch auger with a screw shank a formed on it, to enable the attachment to be applied.

The auger is generally shortened, so as to leave only the cutter and a turn or two of the "twist," or sufficient to discharge the chips properly.

The attachment-cutter C has a chisel edge f for paring up the bottom of the hole, and a "nicker" d for shaping the periphery thereof.

Claim.—The attachment applicable to the common auger, bit, or other boring tool, substantially as and for the purposes specified.

No. 22,394.—NORMAS S. WHITE and AARON DENIO, of Shaftsbury, Vermont.—*Improved Method of Attaching Cutting Lips to Auger Shanks*.—Patent dated December 21, 1858.—The nature of this invention consists in preparing the body of the auger, independent of the head or cut, in the usual form, and of any suitable wrought or cast metal, having about one-third of its width in the centre at the bottom cut off horizontally, and the sides or spiral edges cut vertically, so that the sharp edges of the sides extend below the horizontal line, and having a hole in the centre to receive the centre tenon in the top of the head.

Claim.—The inventors say: We do not claim broadly attaching the cutting parts to the screw shaft or augers.

But we *claim* the specific manner set forth and shown in the specification.

No. 21,179.—CHARLES L. BARNES, of New York, N. Y.—*Improved Method of Securing the Cutters to the Spindles of Augers*.—Patent dated August 17, 1858.—The nature of this invention consists in the manner of securing the cutter to the spindle of the bit, so that it cannot be detached and left in the bored hole when the motion of the bit is reversed to take it out of the hole to clean out the chips and cuttings, so that it can be readily attached to and detached from the spindle when required, and in the peculiar conformation of the cutting edge or edges of the cutter, by which its efficiency is increased.

The inventor says: I do not claim a bit having detached cutters, nor a bit by which different sized holes may be bored by changing the size of its cutters.

But I *claim* the combination of the spindle A, cutter B, and check nut F, for the purpose of securing the cutter to the spindle, arranged in the manner and for the purpose as set forth.

No. 19,829.—NICHOLAS CLARE and JOHN QUIGLY, of Malden.—*Improved Method of Attaching Expansible Cutting Lips to Augers, &c.*—Patent dated April 6, 1858.—This invention consists in a reamer and plug-cutter formed of two pieces *a* and *b*, so constructed that it may be attached or detached from the auger or other boring or drilling tool, and so adjusted upon the same as to common reaming or cutting at the desired distance from the cutting end of the tool, and cut or ream of the plug-hole or countersink of the desired diameter.

Claim.—The detachable and adjustable reamer or plug-borer, constructed and capable of being operated as set forth.

No. 20,261.—BENJAMIN FITCH, of Mooser's, N. Y.—*Improved Barrel-Head Machine*.—Patent dated May 18, 1858.—The heading is placed upon the platform and secured by the disk D¹ pressing against it. Motion is given to the shaft C to revolve the head; the circular saw is then carried against the heading, by moving the handle Q, to cut the head to a circular form and to proper size; the cutters U U¹ are, by the same movement of the handle, carried against the sides of the periphery of the head to cut it to a proper thickness and level.

The inventor says: I *claim*, first, the combination of the frame P

and the plane stocks U U¹, operated by the movement of the handle Q, as and for the purposes set forth.

Second. The combination of the friction band K with the swinging platform V, operated at one and the same time through the handle L, in the manner and for the purposes set forth.

Third. Releasing the spring catch *a* from the arm *s*, to allow the frame P to return to its first position after the saw O has effected its purpose by the lever *b* acting upon the stop *c*, as described.

No. 19,066.—WILLIAM BEVARD, of Muscatine, Iowa.—*Improved Method of Connecting the Bevelling Knives in Circular-Cutting Barrel-Head Machinery.*—Patent dated January 12, 1858.—In operating the machine, the pieces to compose the head are dropped between the disks B and C, and rest upon the iron step J, which is held up against or near the disks by the foot pressing down the lever O; the right hand is then laid upon the end of the lever H, and by a slight pressure closes the disks and relieves the foot, which is then placed upon the treadle I, and applies the force necessary to hold the heading firmly between the disks.

Claim.—The described method of connecting the two bit-holders M and N, so as to cause them to act as set forth.

No. 19,509.—WILLIAM MANNING, of Rouse's Point, N. Y.—*Improved Machine for Cutting Barrel Heads.*—Patent dated March 2, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I do not claim, separately or in itself considered, any of the parts described.

But I *claim* the arrangement, as shown and described, of the annular plate F, disk I, hub J, and cutters *ll*, whereby the stuff is held between the annular plate F and the disk I, and is simultaneously operated upon both sides without changing the position of any part of the machine.

No. 19,510.—JAMES H. MATTISON, of Scriba, N. Y.—*Improved Machine for Cutting Barrel Heads.*—Patent dated March 2, 1858.—E is a round stationary shaft, with a square end clamped by the cap E¹ to the bar C to prevent it from turning. The disk E² is fastened to the upper end of the shaft E, and may be provided with spars to hold the heading while it is being shaped. F is a hollow shaft turning on the shaft E, and supported by the bar F¹ fastened to the front posts. The shaft F is provided with a pulley F² to turn it and carry the planing disk G fastened to its upper end. The disk G has one or more bevelling cutters G¹, and one or more spare cutters G², to form the edge of the head H on the disk E², against which it is clamped by the disk H¹ on the stationary transversing shaft H², which transverses under the cap I on the top bar C¹, and is prevented from turning by the lever I¹ connected to it, and by which it is operated to clamp the heading and release the head H after it is formed or cut as desired.

Claim.—Automatically transversing the disk cutters in any man-

ner, substantially as described, for the purpose of operating upon the heading either at the same time or alternately.

No. 20,864.—A. H. CROZIER, of Oswego, N. Y.—*Improved Machine for Cutting Barrel Heads*.—Patent dated July 13, 1858.—The nature of this invention consists in an improved arrangement of machinery for cutting and bevelling the heads of barrels, casks, &c., in which both the cutting and bevelling tools are controlled by a single winch or lever X worked by the operator, and in which it is not necessary to stop the motion in order to put in the material or take out the finished work.

The inventor says: I *claim*, first, the disk M, constructed and operated as described.

Second. The method described of connecting the saw G and cutter, so that both are controlled by the same winch or lever, substantially as specified.

Third. Attaching the saw to a sliding stock, as and for the purpose described.

No. 20,962.—ASA D. STEWART, of Bennington, Vermont.—*Improved Machine for Cutting both Bevels Simultaneously on Barrel Heads*.—Patent dated July 20, 1858.—This invention consists in using, in connexion with a circular concave saw, and on the same mandrel, a cutter formed of two or more saws arranged in a novel way, whereby the heads are cut out from the stuff and a bevel cut on both sides of the heads at one and the same operation.

The inventor says: I do not claim broadly the use of a concave cutter, nor do I claim broadly the employment of more than one saw or cutter upon an arbor.

But I *claim* the arrangement and combination of saws *f g*, saw J, and mandrel H, as shown and described, whereby both bevels are simultaneously cut.

No. 21,117.—A. H. CROZIER and CYRUS CARRIER, of Oswego, New York.—*Improved Machine for Chamfering and Crozing Barrels*.—Patent dated August 10, 1858.—In the engravings, A marks the frame of the machine; B the platform for the barrel; C the rack attached to the side of the platform; D the foot lever working the segments of pinions which gear into rack C to raise and lower platform B; E the guides upon which B rises and falls; F the hoop to receive the upper end of the barrel; G a section of barrel to be operated upon; H the cutter stock; I the crozing tool; J the chamfering tool; K the slide of the crozing tool; L an arm operating slide K; M a cam or eccentric; N an arm operated by M; O an arm of the chamfering tool; P a solid shaft of cam M; Q is a spur-wheel at the top of shaft P; R is a hollow shaft of the cutter stock H; S is a spur-wheel at the top of the hollow shaft R; T is a friction pinion gearing into the spur-wheels Q and S; U is a bevel-wheel by which shaft R is driven; V a bevel-wheel attached to the driving shaft and gearing into wheel U; W the main or driving wheel, and X a winch.

Claim.—The method described of moving the crozing and chamfer-

ing tools to and from their work by means of the differential movement of the wheels Q and S, produced in the manner described, when operating the cam or eccentric which controls the action of the tools, all substantially as specified.

No. 21,769.—JAMES H. MATTISON, of Scriba, New York.—*Improved Machine for Chamfering and Crozing Barrels*.—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* a crozing tool provided with two spurs, one before the other, to cut the sides of the croze or score, and a hook or grooving tool to cut the bottom of the score, when the whole is made or formed of a single piece of metal, substantially as described.

I claim the use of the solid shaft P and hollow shaft Q in combination with the pulleys T U V and W, or their equivalents, which operate them with different velocities, when used for the purpose of giving motion to the chamfering and crozing tools, or their equivalents, and for moving or carrying them (the chamfering and crozing tools) forward to perform their work in chamfering and crozing barrels in the way and manner described.

No. 21,718.—WILLIAM S. ARNALL, of Sperryville, Va., assignor to Himself, O. P. SMITH and A. C. JORDAN, of said Sperryville.—*Improved Machine for Crozing, Chamfering, and Bevelling Barrels*.—Patent dated October 5, 1858.—A represents the frame-work of the machine. C is a large cog wheel, which drives the machine; this wheel is secured to a shaft L; on one end of this shaft is a screw K, and on the other is a handle L¹. The cog wheel C works into the pinion D¹, on a shaft marked D¹. B is a balance wheel located on shaft D¹. J J represent two arms, which are secured to one end of the shaft D¹, and to these arms are secured the cutting blades, which are four in number; a blade *d* for the purpose of bevelling the end of the barrel; blade *e* for howelling, and the croze *c*; two of these blades are secured to each of the arms.

Claim.—Not the employment of several tools, but the arrangement of the adjustable croze and howel blade with the stationary bevelling blade and chamfering tool, when the same are constructed and operated in the manner and for the purpose specified.

No. 21,725.—JACOB REES, of Elk Horn Grove, Ill., assignor to JONAH L. REES, of Elk Horn Grove.—*Improvement in Machine for Forming Barrels, &c.*—Patent dated October 5, 1858.—The nature of this invention consists in constructing machinery, whereby the staves of barrels, casks, and kegs are put together, the bulge or swell formed, and the chamfering and crozing of each end are done simultaneously, and forming the barrel ready for receiving the hoops and headings.

Claim.—The construction of the cylinder S S S 2, with the radial arms U U U U, and segmental parts W W W W W, and disks X X X X, the circular clamps Z Z Z Z, and guide hands & & &, the suspension devices I I J J Y Y, arranged and operated as described.

No. 19,595.—EDWIN B. WHITE, of Nashua, N. H.—*Improved Bench Hook*.—Patent dated March 9, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the shell or case, nor the hook C, provided with the shank D, which fits within the shell A, for these parts have been previously used.

But I *claim* securing the hook C at the desired height by means of the lever E attached to the shell in case A, and operated or adjusted by the screw F or its equivalent, so that the shank D of the hook will be pressed against both at its upper and lower end, and thereby firmly secured within the shell or case, as described.

No. 21,351.—JOHN L. MANN, of Ravenna, Ohio.—*Improvement in Machine for Bending Fellies*.—Patent dated August 31, 1858—A represents the frame-work of the machine; B the mounted forming block; this consists of a half cylinder, having a diameter equal to the size of the wheel which is to be made with the fellies. This half cylinder-forming block B is mounted upon each end upon a pair of truck wheels C, which rest upon the track D D E E, for the purpose of conveniently moving it under the bending apparatus.

Claim.—The arrangement of the mounted forming block, and the system of tracks D E F G, operating as described, when used in combination with the apparatus described, operating in the manner and for the purpose set forth.

No. 19,480 —THOMAS BLANCHARD, of Boston, Mass.—*Improved Method of Bending Shovel Handles*.—Patent dated March 2, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim broadly bending wood so that its fibres are prevented from being distended longitudinally while being bent, for this has been previously done, and was formerly patented by me.

But I *claim* the method of confining the wood while being bent, to wit: by means of a key i, arranged to pass through straps E F, and also through the handle H, substantially as and for the purposes set forth.

No. 22,474.—HARLEY STONE, of Blackstone, Mass., assignor to PAUL P. TODD, of said Blackstone.—*Improved Expanding Bit*.—Patent dated December 28, 1858.—The nature of this invention consists of a bit A, with one lip a, into which is dovetailed a slide cutter B, in which is a diagonal slit C opposite to this, and in the main bit is another slit D of equal length, running near to and parallel with the edge of the main bit. Through the two slits is passed a small sliding bolt E, having upon one end a nut e, and upon the other a round flat head, both of which project over the edges of the slits. Stamped upon the main bit and slide cutter is a graduated scale F f, by means of which the exact size can be determined.

Claim.—The mode and application of the slide cutter B, the slits C and D, the bolt E, and the graduated scale F f, and constructed and operating as above set forth and described.

No. 21,597.—WILLIAM A. CLARK, of Bethany, Connecticut.—*Improved Expansive Bit*.—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the follower D, bevelled upon its under side in such a manner that driving it home against the cutter shall crowd it upward, with a lip or shoulder above it upon the shank, which lip or shoulder is so formed that this upward pressure, above mentioned, shall crowd the upper edge of the follower in against the seat back of it, when the upper edge of the follower is bevelled to correspond as set forth, for the purposes stated, the follower being brought home to its place by a screw or in any equivalent manner.

2d. So arranging the movable and stationary cutters in relation to each other, and to the other parts, that all the chips made by the instrument shall be delivered upon one and the same side of the shank of the bit, thereby allowing the back side of the shank of the bit to be left entire, as set forth.

No. 19,028.—B. B. HILL and S. W. ADAMS, of Chicopee, Mass.—*Improved Bit Holder*.—Patent dated January 5, 1858.—This bit holder is intended to be used for boring holes near to the walls of a room, or in a corner, and many places where holes cannot be made by the straight bit or auger when used in the common bit stock.

When in use, the bit is placed in the socket G, the stock is attached at E, and the casing is held in a fixed position with one hand, while the brace or bit stock is turned with the other.

Claim.—The combination of the two boxes or bearings, placed at any required angle with each other, with the intervening globular connexion which forms a casing for the bevelled gear.

No. 20,010.—DAVID H. WHITTEMORE, of Worcester, Massachusetts.—*Improved Bit Holder*.—Patent dated April 20, 1858.—A A is the body of the shank of the brace, it being cut off from the same at N. B B is a common boring tool inserted in the brace. C D is the holder having been turned about one-quarter of the way around upon its centre after the tool has been inserted, holding it firm in its socket. The part E of the holder is a thumb piece to turn the holder by, but a burr upon the edge of the same may be substituted.

Claim.—The holder C E, with its cam, when applied in the manner and for the purpose set forth.

No. 21,160.—WILLIAM TUCKER, of Gloucester, Rhode Island.—*Improved Variable Boring Bit*.—Patent dated August 10, 1858.—A exhibits the shank of the bit as constructed with two male screws *a* and *b*, one of which has its threads, pitch, or incline in opposite directions to those of the other, one being a right threaded and the other a left threaded screw. One screw *a* is arranged in advance of the other *b*, and carries at its outer end a cutter edge, or cutter *c*, and a tapering centring point or screw centre *d*.

The inventor says: I am aware that it is not new to make a centre bit with a tapering or screw centre, made adjustable in such manner,

with respect to the extreme outer edge of its cutter, as to enable the centre bit to be capable of boring holes of different dimensions; therefore I do not claim such in the abstract; but what I do *claim* is the combination of a tapering centre point or screw centre *d* and an auxiliary cutter *c* arranged on the shank A, as described, with a main cutter *f* applied to the shank so as to be capable of being revolved thereon, and fixed in position thereon, by means substantially explained.

No. 20,192.—WILLIAM A. CLARK, of Bethany, Connecticut.—*Improved Method of Seating the Movable Cutter in Expansive Bits*.—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The combination of the V-shaped projection or seat *a*, or its equivalent, with the corresponding groove in the movable cutter above the cutting edge, by which I am enabled to vary the distance of the edge of the cutter B, near the stock, above that of the central cutter, to any desirable extent, substantially as and for the purposes set forth.

No. 20,779.—L. A. DOYLE, of Salem, Ohio.—*Improved Boring Machine*.—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the combination of two drill stocks F F, by means of an internally geared driving-wheel G, and a small pinion H, so that a slow or fast speed drill of auger may be used at pleasure, as the necessity of the case may require, in the same machine, and by the turning of one and the same crank, substantially as and for the purposes set forth.

Second. Effecting the combination of both of said drill stocks F F with the feeding rack bar I and the two segment levers K, by means of a flange *g* on the rear end of the rack bar, and collars *h h* on the drill stocks F F¹, so that both shall be fed up together, substantially as and for the purposes set forth.

No. 22,379.—GEORGE F. RICE, of Worcester, Mass.—*Improved Machine for Boring Wood*.—Patent dated December 21, 1858.—This invention consists in arranging the uprights by means of semi-circles attached to the sides of the bed piece or bottom of the machine, with slots that allow the uprights to vibrate and stand at any angle required, by means of a double-headed bolt which passes through the cross-piece, and slides in the slots of the semi-circles, with a nut on the opposite end to make the uprights fast at any angle desired; thus enabling the operator to bore a hole on any angle required.

Claim.—The hollow cross-bar, together with the double head bolt, which enables the operator to fasten the uprights at any angle by simply turning one nut; the whole being constructed substantially in the manner as described, and for the purposes specified.

No. 20,495.—SAMUEL U. KING, of Windsor, Vt.—*Improved Device for Attaching the Bits to the Brace*.—Patent dated June 8, 1858.—The

nature of this invention will be understood by reference to the claim and engravings.

Claim.—The mode of fixing the tool or auger in its handle or bit stock, viz: by the projection *b* on the tool, in connexion with the wedge *C* and the spring *D*, applied to the handle or stock *A* and the socket *a* thereof, substantially as specified.

No. 22,101.—JAMES LYON and GEORGE H. BRADY, of New York, N. Y., assignors to Themselves and THOMAS J. FALLS, jr., of said New York.—*Improved Machine for Cutting Bungs.*—Patent dated November 16, 1858.—The nature of this invention consists of a revolving face chuck, carrying adjustable stocks, through which cutters are slid and forced down upon the article to be cut, or withdrawn therefrom by means of a face plate acting on the face of said cutters. A revolving cutter is also made use of to finish the outer end of the bung.

Claim.—The cutters *d d* and stocks *c c*, sliding in the adjustable blocks *b b*, that are revolved by the face plate *E*, and which cutters *d d* are projected by means of the disk *F*, and act to cut a tapering bung, substantially as specified.

No. 19,700.—JOHN W. KENNEDY, of Plainfield, Connecticut.—*Improvement in Holding Bolt for Carpenters' Brackets.*—Patent dated March 23, 1858.—This invention consists of an iron or steel bolt, with a groove on its side, extending to the inner end. In this groove is a dog or pawl, with a spiral point or turn. The bolt is used by passing it through the bracket into a hole made to receive it into a timber in the side of the building.

Claim.—The spiral pointed dog or pawl, as used with the bolt, to hold and secure carpenters' brackets for fasteners to buildings, as set forth.

No. 21,247.—JUSTIN DEVOGE, of Randolph, Pennsylvania.—*Improved Carpenters' Work-Bench.*—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

Claim.—First, in regulating the inclination of the cutting instrument to the angle required to the edge of a board a given bevel, by raising or lowering one of the jaws *B* of the clamp between which the board is held, substantially as described, or in an equivalent manner.

Second. Combination of the bevel boards, arranged as described, with the jaws *A B* of the clamp, between which the board is held, for the purposes set forth.

No. 20,918.—SAMUEL E. FOSTER, of Fitchburg, Mass., assignor to WALTER HEYWOOD CHAIR COMPANY.—*Improved Machine for Manufacturing Chair-Backs.*—Patent dated July 13, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The described rest, consisting of two jaws *F*, which are moved an equal amount on each side of a vertical plane passing through the centre of the cutters as the thickness of the stuff varies, in the manner and for the purpose substantially as set forth.

No. 20,913.—HIRAM C. WIGHT, of Worcester, Massachusetts.—*Improved Floor-Clamp*.—Patent dated July 13, 1858.—In this invention a toggle is employed in connexion with a power-screw B, claw-plate E, and jaw or pressure-plate, the whole being fitted or attached to a proper framing or support, so as to form a powerful, portable, and economical clamp, suitable for laying floors, or other work in which clamps are employed.

The inventor says: I do not claim broadly the employment or use of a toggle, for that is a well known mechanical device.

But I *claim* the toggle formed of the levers C D, connected with a screw B, which passes or works through a pivoted nut c, in combination with the claw-plate E and head or jaw G, attached, respectively, to the levers C D, the whole being arranged and connected with the frame A, substantially as and for the purpose set forth.

No. 19,982.—EDWARD CONROY, of Boston, Massachusetts.—*Improved Sharpening Device for Rotary Cutters*.—Patent dated April 20, 1858.—The bar H is attached at its lower end to a plate I, which is secured to the under side of the platform B by a screw c¹, which passes through an oblong slot a in the plate I into the platform. This plate I is consequently allowed to slide, and it is adjusted or operated upon by a screw J, which is fitted into the end of the framing, and has its inner end connected with the plate I, so that by turning the screw J the bar H may be adjusted near to or further from the cutter G.

The inventor says: I do not claim broadly the idea of rendering revolving cutters self-sharpening by bringing their edges into contact with a sharpening instrument.

But I *claim* the sharpening device H, when arranged and employed substantially in the manner shown and described.

No. 19,035.—G. H. MALLARY, of New York, N. Y.—*Improved Method of Dovetailing Rotary Cutters in their Heads*.—Patent dated January 5, 1858.—This improvement consists in forming cutters c in the segment of a cylinder of the size of the cutting cylinder, and placed in a spiral direction around said cylinder, and in the mode of attaching the same for use.

The inventor says: I do not claim a spiral cutter, or a cutter made straight on the outer surface of the arm.

But I *claim* the mode described of attaching spiral cutters to the curve segmental surface of the arms by tongues and grooves for the determination of their proper position, and for forming recesses for the heads of the bolts, by which they are affixed, all as fully set forth.

No. 19,406.—G. W. BILLINGS, of Cleveland, Ohio.—*Improved Dovetailing Tool*.—Patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The dovetailing tool having semi-circular lips B B, for the purpose of cutting tenons to fit mortises made by simply boring with a common auger or bit, substantially as set forth.

No. 21,503.—T. E. KING, ALEXANDER KING, and EDWIN KING, of Cherry Valley, Ohio.—*Improved Machines for Cutting Dovetails*.—Patent dated September 24, 1858.—The nature of this invention consists in such a construction of parts and arrangement of devices that the work usually performed by the use of the saw and chisel in dovetailing cabinet wood, such as drawers, &c.

The process consists in the performance of two operations: first, of cutting mortises or gains in the drawer fronts; and second, of cutting the pegs in the drawer ends.

The inventors say: We *claim* the parts shown in figs. 4, 5, 7 and 8, arranged and operating as described, for the purpose of cutting the mortises or gains in the drawer fronts.

We also claim the instruments shown in figs. 9 and 10, arranged and operating as specified, for the purpose of cutting the end pieces of drawers, substantially as set forth; these several devices being arranged to operate conjointly in the manner and for the purpose set forth.

No. 22,369.—EDWIN A. JEFFERY, of Corning, N. Y.—*Improvement in Hoop Lock*.—Patent dated December 21, 1858.—This invention consists in having a metal socket or shell provided with a recess or indentation, and a conical pin or key which passes through the socket, whereby the ends of the hoop, by being looped or doubled, and fitted in the socket, may be firmly secured and connected together.

Claim.—As an improved article of manufacture, a hoop lock composed of a shell or socket A and a taper pin B, made as shown and described.

No. 21,507.—SANFORD LITTLEFIELD, of West Troy, N. Y.—*Improved Machine for Notching and Trimming Hoops*.—Patent dated September 14, 1858.—The nature of this invention consists in so constructing a machine with cutter-knives as to cut a notch with hoops for locking their respective ends, and at the same time and operation trim the said notch upon the back side of it. It also consists in arranging the cutter-knife to cut the notch with and upon the same movable frame containing the cutter-knife to trim the said notch. It also consists in arranging the movable frame that, by the downward motion of the treadle, a downward and oblique motion is given to the said frame, whereby the said notch is cut ready for locking purposes without further work or trouble.

Claim.—The relative arrangement of the cutters D and E, moving in ways rectilinearly and obliquely, whereby the notch is cut and trimmed in one operation, as described and set forth.

No. 21,508.—HIRAM LITTLEJOHN, of Troy, N. Y.—*Improved Machine for Cutting and Finishing the Locks of Wooden Hoops*.—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the two separate knives A B, when arranged together with a suitable bed C, substantially as described, for use in cutting the locks of wooden hoops.

I also claim the knife D, when arranged in combination with the

knives A B, or their substitute, and the bed C, substantially as described, for "barking" the lock, while the hoop remains in the same place on the bed that it occupies during the cutting of the lock.

I also claim the knife E, when arranged in combination with the knives A B, or their substitute, and the bed C, substantially as set forth, for trimming the lock, while the hoop is in the same place that it occupied during the cutting of the lock.

No. 20,345.—JONATHAN P. GROSVENOR, of Lowell, Mass.—*Improved Cutter-head and Table-rest for Cutting Irregular Forms*.—Patent dated May 25, 1858.—This invention consists in dispensing with the table, and in the employment in the place thereof of a rest H, in combination with the cutter-head shown in fig. 2, by which means mouldings may be cut upon articles curved in any possible variety of directions, or upon the face as well as the edges of irregular curved forms.

The inventor says: I *claim*, first, the rest H in combination with a cutter-head, operating in the manner set forth for the purpose specified.

Second. I claim securing the cutters to the head by means of grooves in the collars, as set forth, when the cutters are set in planes forming angles with each other, as described.

No. 20,505.—WILLIAM N. OAKES, of Dana, Massachusetts.—*Improved Machine for Cutting Irregular Forms*.—Patent dated June 8, 1858.—This invention consists in the employment of two carriages B C, both of which have a rectilinear motion, but which are so connected by gearing as to run at different speeds; the one having the pattern upon it having the most rapid motion, and the pattern being elongated so as to reduce the abruptness of the ascent.

Claim.—The combination of the two carriages B C, having a rectilinear motion at different speeds, with the elongated pattern, tracers, and cutter, for the purposes set forth; not intending to claim an elongated pattern as such, or combined with other machinery to cut irregular forms, but only its combined with two carriages having a rectilinear motion at different speeds, in the manner described.

No. 21,379.—HENRY D. STOVER, of Boston, Massachusetts.—*Improved Machine for Cutting Irregular Forms*.—Patent dated August 31, 1858.—The nature of the improvements in this machine will be understood by examining the claim and engravings.

The inventor says: I *claim*, first, the guards 3 and bar 1 carrying them, combined with the revolving cutters and table, in the manner described and for the purposes fully set forth.

2d. I claim the guide J, so constructed and fitted to the outer surface of the bearing or tube B as to be vertically adjustable thereon to guide the pattern without wearing it, while the piece secured to the pattern relieves the shape from the cutting knives immediately above, essentially as set forth.

3d. I claim the combination of the adjustable elastic sleeve L with the tube or bearing B and guide J, in the manner described and for the purposes fully set forth.

4th. I claim the slabbled spindle 4, collars 6, and the cutters, con-

structed and relatively arranged and operated, in connexion with each other, essentially in the manner and for the purposes fully set forth and described.

No. 22,302.—Z. F. NANCE, of Richmond, Virginia.—*Improved Machine for Turning Irregular Forms*.—Patent dated December 14, 1858.—A is the main frame; C is a secondary frame swinging from frame A upon pins *i* and supporting the pattern carriage C¹. The cutter B is hollow and rotates upon shaft B¹ driven by pulley B². Around its mouth are arranged the cutters R. Upon the carriage C¹ is the pattern P journaled at *m n* and rotated by a cog-wheel connexion *f f*—the former upon the pattern and the latter upon screw shaft *g*—meshing with the long pinion *a* on the main frame, said long pinion being rotated from the driving pulley B² by reason of the band *w*, pulley *x*, shaft *y*, and wheels *z z*.

Claim.—Passing the piece to be turned through the pattern, and the combination of the same with the swinging frame C, and parts connected therewith, as and for the purposes set forth.

No. 21,861.—LINUS YALE, jr., of Philadelphia, Pennsylvania.—*Improved Device for Adjusting at a Right Angle the Joiner's Square*.—Patent dated October 19, 1858.—This invention consists in providing the blade of the square with a lateral projection or arm proportioned to its length to serve as a lever, by which, through two screws at its extreme end, the blade may be made readily to assume a position exactly at right angles to the handle.

Claim.—Extending an arm *a*¹, or its equivalent, to act as a lever, along the handle or stock far enough to insure the proper effect of the adjusting screws, or their equivalents, for the purpose and substantially as described.

No. 22,058.—JOSIAH BLACK, of Memphis, Tennessee.—*Improved Lath Machine*.—Patent dated November 16, 1858.—This machine is designed to act automatically from the reception of the bolt until it is cut into laths. F is the main frame; C is the carriage in which the bolt is secured between dogs *a a*¹, and which is made to traverse the upper portion of the frame F by connexion of cords *b b*¹ with drum D on shaft *c*, the opposite rotation of the drum giving the opposite movements of the carriage.

Claim.—The vibrating table and lever B, together with mechanism connected therewith for giving change of motion to carriage, in combination with the lever B¹ and the mechanism for opening and closing the dogs, the whole being arranged for joint operation, substantially as and for the purpose set forth.

No. 22,449.—JACOB PEFFLEY, of Bainbridge, Ind.—*Improved Lath Machine*.—Patent dated December 28, 1858.—This invention consists in a novel arrangement of a reciprocating cutter, or knife, with a stationary bed and reciprocating supports for sustaining the bolt, and also in a registering device applied to the machine, and used in connexion with a bell; the whole being arranged as described, whereby a self-feeding

or automatic machine is obtained, and one that performs its work very expeditiously.

The inventor says: I *claim* the combination of the reciprocating knife K, the bolt supports or bars *k*, and the stationary bar or bed Y, arranged to operate substantially as and for the purpose set forth.

I also claim the shaft H provided with the bent rods *k*, and connected or arranged with the rock shaft V, of the bars *k k*, through the medium of the lever Q R, bars S R¹ and the arm U, substantially as and for the purpose set forth.

I further claim, in connexion with the knife K, bars *k k* and bed Y, the registering device operated from the rock shaft V through the medium of the pall *i*¹, connected with the lever C¹, rod *k*¹, and bent lever *l*¹, so as to be thrown in contact with the ratchet A¹ by the bolt *a*, as set forth.

No. 21,675.—REUBEN HAYNE, of Oberlin, Ohio.—*Improved Machine for Cutting Laths*.—Patent dated October 5, 1858.—Upon the driving shaft is keyed the bevel gear G, which meshes into the intermediate gear G¹, and by which the bevel gear H is operated. In the wheel H is secured a wrist which works in the slot I in the arm or lever I¹. The opposite end of this arm is hung loosely upon the shaft J, to which the ratchet wheel K is keyed. The pall L rotates the ratchet wheel by the action of the arm I¹ as the wheel H is rotated, which gives a vibratory motion to the arm.

Claim.—The arrangement of the curved slot I and lever I¹, in combination with the revolving sliding shafts *c m*, and gears *t o p* and *n*, when arranged as described, for the purpose of raising and giving a throw to the log conjointly and acting with the immediate gearing in the manner described.

No. 20,292.—JAMES NEVISON, of Morgan, Ohio.—*Improved method of feeding the Bolt in Lath Machines*.—Patent dated May 18, 1858.—This improvement relates to a lath machine with a wedge-rack for elevating the log. The claim and engravings will give the reader an idea of its nature.

Claim.—The wedge-rack D riding on an inclined plane D¹, in combination with the arms G, provided with the spur-wheel F, ratchet-wheel I, and ratchet J, for the purpose of elevating the log and giving it a throw, and also for holding it in place during the stroke of the knives, when arranged and operated substantially as set forth.

No. 20,323.—JARED T. BUNCE, of East Haddam, Conn.—*Improvement in Lathes*.—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the screw F and a nut E, nor the pinion *g* and rack *i*, for moving or feeding the slide-rest, for these are well known devices, and in common use for such purpose.

But I *claim* constructing the side-rest of two parts, C D, arranged as shown, so that the part C may have a movement independent of the other in combination with the nut E, formed of the parts *j k*, operated as shown and used in connexion with the worm-wheel *s*, which is

actuated simultaneously with the parts *j k* of the nut, substantially as described.

No. 20,166.—JOHN McNARY, of Brooklyn, N. Y.—*Improved Automatic Lathe*.—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the sliding or travelling lathe heads *K L*, between which the stick to be turned is centered in combination with the rotary cutters *c*, when the above parts are arranged to operate as shown, viz., so that the stick will be gradually fed to the cutters until the desired form is given it, and then its feed motion stopped and the stick rotated, so that a perfect symmetrical form may be given it.

I further claim giving the feed and return motion to the stick to be turned, and also rotating the same from the cutter-shaft *B* by means of the screw *g* on said shaft, worm-wheel *h* on shaft *F* in connexion with the gearing *w a¹ b¹*, screw *d¹*, worm-wheel *e¹*, and the screw *p* on shaft *G*, together with the gearing through the medium of which the screw-shaft *I* is rotated, the above parts being used in connexion with the lever *H* and the catch *n*, rod *a*, with the pawls *l¹ n¹*, actuated by lever *O* and pinion *u¹*, the whole being arranged to operate as and for the purpose set forth.

No. 21,232.—SIMEON GOODFELLOW, of Troy, N. Y., assignor to Himself and JOHN FISH, of said Troy.—*Improved Chuck for Lathes*.—Patent dated August 17, 1858.—This invention consists in a peculiar arrangement of sliding jaws, frame, and screws, and also in the use of a button or stop.

The inventor says: I *claim* the button or stop *H* attached to the slide *I*, and arranged relatively with the jaw *C*, for the purpose specified.

I further claim adjusting the frame *B* by means of the screw *G*, when said frame is arranged with the jaws *C C¹* and screws *D E*, whereby the chuck may be used either as an eccentric or concentric one and manipulated with equal facility in either capacity.

No. 20,298.—NATHAN M. PHILLIPS, of New York, N. Y.—*Improved Lathe Dog*.—Patent dated May 18, 1858.—To be used, the dog is placed on and over the end of the article to be turned, the follower being moved toward the upper end of the aperture *E*, and the set screw is turned down upon the follower *G* until the article is firmly secured between the lower part of the circular hole *H* in the body and the upper part of the hole in the follower. It is released from the article by turning back the set screw and allowing the follower to move toward the top of the aperture named.

The inventor says: I do not claim, broadly, making the hole in a lathe dog in which the article to be turned is placed, adjustable to fit, receive, and hold different sized articles.

But I *claim* the lathe dog described, having its body formed of one piece, and having an aperture *E*, in which the follower *G* operates, in the manner and for the purposes set forth.

No. 21,240.—FREDERICK BALDWIN, of South Wardsboro', Vt.—*Improved Lathe for Turning Beaded Work*.—Patent dated August 24, 1858.—This invention consists in the use of a rotating pattern in connexion with rotating cutter disks, hollow stationary mandrel and feeding device, whereby the several parts are made to work automatically and a simple machine obtained. The invention is designed for turning beaded work on cylindrical sticks, such as broom handles, tool handles, chair rounds, &c.

The inventor says: I *claim*, first, the stationary mandrel H, provided with the movable or adjustable dies *d* and spurs *e*, rotating cutter disks F G, provided respectively with the cutters I O, the feeding nut *f*, and the rotating pattern Q actuating the cutter C through the medium of rod X, collars Y *h*, and plate B¹; the whole being combined and arranged to operate as and for the purpose set forth.

Second. The guide *i* and wheel K, provided with the stop pin *l*, pin *o*, and bar *n*, in connexion with the slides R S, connected by the spring *t*, the lever W, clutch V, and collars U U¹, provided with the pins *v*; the whole being combined and arranged substantially as and for the purposes set forth.

Third. The feeding nut *f*, placed in the cutter disk F, in combination with the stationary mandrel H and cutter disk G, substantially as described.

No. 22,447.—PETER H. NILES, of Boston, Mass.—*Improved Lathe for Turning Masts, &c.*—Patent dated December 28, 1858.—The operating parts of the machine are carried by a strong frame-work A of iron and of timber, upon which slides the cutter carriage B; upon the top of this carriage revolves a hollow shaft C that carries the cutters, and through which the mast or spar passes.

Claim.—The inventor says: I claim the revolving traversing cutters in combination with the dogs S, or their equivalents, for supporting the stick of timber, operating in the manner described, for the purpose set forth.

Second. I claim the dogs automatically as the cutters approach them, for the purpose set forth.

Third. I claim the method of controlling the position of the cutters by means of the combination of the slotted wheels D and L; the gears P Q and R, and the pattern W, and their connexions M M¹ N O T V; operating in the manner substantially as set forth.

No. 20,705.—JOHN GARDNER, WILLIAM GARDNER, and GEORGE GARDNER, of New York, N. Y.—*Improved Lathe for Turning Oval Frames*.—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We neither claim the device for obtaining the eccentric motion of the frame, nor causing the cutters as well as the frame to revolve.

But we *claim* constructing oval picture frames by the application of the revolving cutters N and P to the frame O, when the latter is caused to revolve in an oval path, and when the cutters are so arranged

as to act simultaneously, one cutter to form the inside, and the other cutter the outside moulding of the frame, as set forth.

No. 19,056.—AMANDER N. WILCOX, of Watervliet, N. Y.—*Improved Lathe for Turning Wood*.—Patent dated January 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the employment or use of slides carrying cutters, and operated by patterns or guides acting in combination with springs.

But I *claim* the use of cutter slides, M and N, moving vertically, and acting by their own weight, in combination with the levers *a b*, rods *d e*, and pattern guides L, constructed and arranged to operate the cutters E and G, as described.

I further claim the combination of the cutter slides and cutters, arranged and operated as described, with the slides H and J, and their operating mechanism, so as to support the article being turned close to the cutters, excepting when the square parts of the article need passage through the said slides, substantially as described.

No. 22,043.—ALBIN WARTH, of Stapleton, N. Y.—*Improved Lathe for Turning Wood*.—Patent dated November 9, 1858.—This invention relates to improvements in that class of turning lathes which are designed for turning, by automatic mechanism, beaded or ornamental work, chiefly in wood, such as stair and other balusters, newels, bedstead posts, and the like. It is an improvement on a turning lathe patented by the above named inventor October 10, 1854.

The inventor says: I do not claim a slide rest provided with cutting tools set in vibrating or sliding heads and actuated through the medium of certain mechanism by fixed patterns, for such device was formerly patented by me. Neither do I claim, broadly and irrespective of arrangement, the employment or use of eccentrics for operating the stuff pattern.

But I *claim*, first, the eccentric A^1 connected with the tool *v*, and rotated through the medium of the gearing $q^1 r^1 s^1$ or $q^1 t^1 r^2 s^2$, or their equivalents, from the mandrel *a*, so as to turn or cut the work in oval or polygonal form, as described.

Second. I claim the combination of the patterns S T, the eccentric A^1 , and cutting tools *p u v*, attached to the slide rest G, and the feeding device formed of the screw E, and nut *i*, when the whole are arranged to operate automatically as and for the purpose set forth.

No. 19,395.—DANIEL WHITE, Jr., of Lowell, Mass.—*Improved Rest Attachment for Lathes*.—Patent dated February 16, 1858.—The back rest *c* is first confined at a sufficient height to free it from contact with the piece to be turned; the piece is then confined firmly in the lathe, after which it is roughed, turned and sized down. The back rest *c* is then lowered and brought firmly to bear upon the sized portion of the wood now turned, the upper portion of the index rest is then turned back.

Claim.—The hinged index rest, as seen at M, for the purpose of roughing the material to be turned, in connexion with its subsequent

use, as shown at H G and *n n*, arranged as shown and for the purpose set forth.

No. 19,051.—WILLIAM D. SLOAN, of New York, N. Y.—*Improvement in Turning Lathes*.—Patent dated January 5, 1858.—This invention consists in combining with a series of rotating mandrels *d*, arranged about a common center, and so arranged that the blocks *f*, which they carry and turn, can be shifted in succession from one position to another, to undergo a succession of operations, a series of radial rests *o* so arranged that they are forced outward to give support to the said blocks when rotated and acted upon by suitable cutters, and drawn inward to relieve the said blocks preparatory to the shifting operation.

Claim.—The combination of the series of radially sliding rests, as described, in combination with the series of shifting mandrels, as and for the purpose specified.

No. 20,956.—ADAM RENNIE, of Binghampton, N. Y.—*Improved method of Feeding the Tool Carriage in Turning Lathes*.—Patent dated July 20, 1858.—The rest which carries the tools or cutters, &c., moves lengthwise on ways in the usual manner; A is the operating lever by which the work is done by raising and lowering, and by which movement the rest is carried forward by operating on the jointed arm or propeller B, which works on the rack C. The arm D, attached to the lever A, meshes into the rack E and holds the rest in proper place till the tool F has done its work; the lever is again raised and lowered until the work is completed; the lever is then raised upright for the purpose of drawing the rest back to the place of beginning.

Claim.—The combination of the lever A with the arms D, and the jointed propeller B B, with the racks E C, respectively, for the purpose of feeding the tool carrier as described. Also the back rest L, for the purpose described.

No. 20,745.—E. H. TITUS, of Wilksbarre, Pa. and JOHN SHARP, of Phillipsburg, Pa.—*Improved Machine for Sawing Lumber*.—Patent dated June 29, 1858.—This invention consists in having the feed and pressure rollers *f n*, rotary planers *j*, and jointing cutters *t t* fitted within an adjustable frame D, in such a manner that the rollers are rendered susceptible of an independent adjustment to conform to the varying thickness of boards or other "stuff" to be resawed, and the frame, at the same time, allowed to be tilted or inclined, so that the "stuff" may be presented obliquely to the saw when required; the whole being so arranged that the "stuff" may be resawed into strips or pieces with parallel or taper sides, and planed and jointed at the same time.

The inventors say: We are aware that boards or "stuff" have been presented and fed obliquely to saws for the purpose of sawing in taper form, and we therefore do not claim broadly such operation.

But we *claim* the tilting frame D, provided with feed and pressure rollers *f n*, and also with the planer *j*, and jointing cutters *t t*, if de-

sired, the frame being applied to the machine and arranged to operate substantially as and for the purpose set forth.

No. 22,386.—ASA F. TARR, of Rockport, Mass.—*Improved Mitre-Box*.—Patent dated December 21, 1858.—The stick E to be operated upon is placed in the box A as usual, and the saw D is fitted in the proper slots d^1 of the plates C. The saw rests upon the stick and passes into the corresponding slots e^1 retaining the saw in the slots d , and the plates C descend as the saw cuts; and as the slots d d^1 d^1 are not acted upon by the saw teeth, they will constantly be kept true, and when the slots c c^1 c^1 are cut by the saw teeth it will not affect the accuracy of the implement, for the slots in plate C serve as guides.

Claim.—As an improved article of manufacture, a mitre-box having a sliding frame F attached to pivoted standards g and otherwise made as shown and described.

No. 21,194.—STEPHEN W. HALL, of Williamsport, Pa.—*Improved Machine for Cutting Mitres*.—Patent dated August 17, 1858.—The knives A A are ground to an edge on the inner sides so that when they are in the act of cutting the moulding M the tendency is to crowd or spring the knives outward, which tendency, if permitted, would interfere seriously with the proper working of the machine; but the said crowding out or springing is prevented by the groove at x , and by the flanges G G, since both the outer and inner edges of said knives when at work are guided and supported and prevented from springing outward or laterally by resting and sliding against the groove x and the flanges G G.

The inventor says: I do not claim as my invention the use of knives A A, adjusted at right angles and attached to the sliding rest B, since the same arrangement substantially is shown in the combination patented by George Le Bow, June 27, 1854.

But I *claim*, first, the use in mitre machines of the flanges G G, and the groove X in the frame E E, for the purpose of guiding and sustaining the outer and inner edges of the knives A A and preventing them from springing, substantially as set forth.

Second. I claim the combination together of the flanges G G, the frame E E with the groove X and the sliding rest B, substantially in the manner and for the purpose set forth.

No. 22,222.—SOLANDER WITHINGTON, of St. Louis, Mo.—*Improved Machine for Cutting Dove-Tailed Mouldings*.—Patent dated November 30, 1858.—This invention consists in a certain combination of saws, and in so arranging and adjusting these saws into a machine as to cause them to cut off the stile the proper length and cut a dove-tailed mortise in both ends at one and the same time and in one operation.

The inventor says: I *claim* the combination of the saws I^1 I and J^1 J with each other, and with the saws K^1 K, in the manner described, the two saws J^1 J being set in a diagonal plane in the manner and for the purpose set forth.

And I also claim the adapting and arranging of the carriage C with the described combination of saws for the purpose specified.

And I further claim the arranging of the three saws K¹ I¹ and J¹ in the carriage B, by which the machine is adapted to cut the different lengths of stile.

No. 21,783.—FREDERICK STANMI, of Lancaster, Pa.—*Improved mode of Revolving the Chisel in Mortising Machines*.—Patent dated October 12, 1858.—The nature of this invention consists in a device attached to the machine for the purpose of reversing the chisel and expediting the mortising operation.

Claim.—The arrangement and combination of the devices E F 2 S T u V W and X, substantially as described, for the purpose of reversing the chisel whilst in operation.

No. 19,492.—O. K. COLLINS, of Murfresboro', Tenn.—*Improved Machine for Cutting the Moulding for Sash*.—Patent dated March 2, 1858.—The bits or knives *a a* are set in such manner that each one cuts a shaving at the same time. A piece of wood is placed upon the way C with one end resting against the stop *s*. Then, by turning the crank E so as to drive the piece upon which the moulding is to be cut, part the planes, and a complete moulding will be cut at a single stroke of the machine.

The inventor says: I do not claim the separate devices employed by me, but I believe that my machine, as a whole, is new, and on account of its functions, as well as its simplicity, cheapness, efficiency, and durability, it is a substantial improvement over all other planing machines heretofore invented.

I *claim* the two-fold and adjustable planes in combination with the removable posts M and a reciprocating way C, for the purpose of cutting mouldings of window sashes, substantially as set forth.

No. 20,824.—HEZEKIAH B. SMITH, of Lowell, Massachusetts.—*Improved Arrangement of Devices for Planing Mouldings*.—Patent dated July 6, 1858.—The nature of this invention consists in the arrangement of an adjustable balance to the revolving cutter-heads F for cutting mouldings, and in so constructing the table or platen L with gibs, or their equivalents, that it may be moved up and down and caused to remain in any desired position by one single screw J, and in an adjustable spur-wheel so arranged as to be adjusted laterally as desired.

Claim.—The relative arrangement and combination of the spire feed-wheel M with the cutter-head F and table L; they being adjusted with each other in the manner described and for the purposes set forth.

No. 20,493.—HENRY LEE KENDALL, of Baltimore, Md.—*Improved Bench Plane*.—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that wedges have been inserted in

plane mouths for compensating for wear on the under surface of the plane; such therefore I do not claim.

But I *claim* the compensating piece C, formed as described, so as to be tightened by the gripe and have its face *f* move parallel to itself, as specified, whereby the opening in front of the bit is not diminished by adjustment of the compensator.

No. 19,130.—S. G. CRANE, of Rochester, New York.—*Improved Crozing Plane*.—Patent dated January 19, 1858.—The nature of this invention consists in constructing crozing planes with two adjustable plates P so arranged as that their radius may be changed to suit barrels, half-barrels, &c., and in attaching the knife V to one of said plates P. The “board” M is constructed in the usual way; also the block K. The plates P are attached to said block by screws J. There are slots in the plates for the screws J to pass through. The slots are covered by the washers C. The knife V is attached to the rear plate P by the screw Y and the nut D.

Claim.—The construction and arrangement of the adjustable plates P and the arrangement of the knife V, as and for the purposes specified.

No. 19,539.—CHARLES E. BARLOW, of Philadelphia, Pa.—*Improved Floor Plane*.—Patent dated March 9, 1858.—A is a carpenter's plane, having a pivot B firmly fixed to each side, said pivots working freely in the bearings formed on the lower part of an iron frame C. The upper part of the frame C passes through the lower stay of the wood frame D and is secured thereto by a key E.

The inventor says: I do not claim, broadly, the manner of connecting the handle with the stock.

But I *claim* the construction of a self-adjusting floor plane, with its handle or handles hinged to the stock, substantially as described, for the purposes set forth.

No. 19,359.—P. A. GLADWIN, of Boston, Mass.—*Improved method of securing the Plane-Iron to its Stock*.—Patent^d dated February 16, 1858.—This invention consists in a new way of securing the iron in the plane, so that the iron may be readily adjusted in the plane, and at the same time firmly secured therein.

Claim.—The two plates D F constructed as shown, viz.: the plate D being provided with the foot pieces or projections *ff*¹, and the oval opening *e* and the plate F provided with the bit *g* and pivoted to the part *c* of the throat C, so that the bit may work within the oval opening *e* of plate D, substantially as and for the purpose set forth.

No. 20,615.—LEONARD BAILEY, of Winchester, Mass.—*Improved device for adjusting Plane-irons*.—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The combination of the movable friction plate I separate from the plane iron C and its adjuster, or the equivalent of the latter, with the throat of the plane stock, and to operate the plane-iron, substantially as specified.

No. 19,620.—THOMAS A. CHANDLER, of Rockport, Ill.—*Improved Joiners' Bevelling Plane*.—Patent dated March 16, 1858.—The two planes are connected together by the jointed slide H and H¹. In the slide are elongated slots I which receive the shank of the bolts J, which shank passes through the plane and has a thumb screw K on the opposite side. The slides being thus formed and provided with a hinge joint at H² allow the planes to be moved to any position or angle upon the slides and secured in place by the bolts and thumb screws J and K. From the slide H¹ extend two arms L L, in the outer ends of which are slots to receive the sector M. The set screws N N enter the slots for the purpose of holding the sector in place.

Claim.—Making one or both plane stocks adjustable on the arms or shanks of the hinges, so as to plane bevels of the same angle on boards of various thicknesses, substantially as described.

No. 21,311.—LEONARD BAILEY, of Winchester, Mass.—*Improved method of screwing Plane-irons to the stocks of Bench Planes*.—Patent dated August 31, 1858.—The object of this invention is to provide the plane with a ready means of fixing the plane-iron or cutter in the stock, or of removing the same therefrom as well as of adjusting the plane-iron in the stock as circumstances may require.

Claim.—The application and arrangement of one or more bearers F, the clamp lever G and the thumb cam H, together and with respect to the top surface of the plane-iron and the bearing surface or cutter-seat *d d* of the throat, substantially as represented and described.

No. 19,619.—CHARLES CARLISLE and LEONARD WORCESTER, of Woodstock, Vermont.—*Improved Machine for Planing Blind Slats*.—Patent dated March 16, 1858.—The shafts of the two feed rollers K K¹ and the elastic roll L¹ extend back to the plate Q of the frame work; between the plate Q, fig. 1, which supports the rear ends of the shafts, and the matrice H I¹, the above shafts are supplied with the necessary pulleys; from a small pulley R on the rear end of the main shaft B B, motion is communicated to a counter or diminishing shaft and pulleys S T U by belt *g*, thence to the feed roll K by the belt *r* and pulley V, thence to the feed roll K¹ by the cross belt *t* and pulley W, thence to the elastic roll L by the belt *v* and pulley X.

The inventors say: We disclaim all old devices and combinations described in the foregoing specification.

But we *claim* the arrangement of the several separate devices as shown and described, and for the purposes set forth.

No. 21,782.—JOHN SPERRY, of New York, N. Y.—*Improved Rotary Planing Cutter*.—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, a plane formed of a series of thin plates, said plates being in form of a cima-reversa, or other form approximating thereto, and placed side by side one another on a revolving axis or shaft, and confined in place by means of a screw nut, substantially as and for the purposes set forth.

Second. Having the central portion of the several sections of the

plane at back and front run at right angles to the axis of the plane, substantially as and for the purposes set forth.

No. 21,618.—JAMES H. NELSON, of Oskaloosa, Iowa.—*Improved Machine for Planing Irregular Surfaces*.—Patent dated September 28, 1858.—This invention consists in having rotary planers placed within yielding or elastic frames, and using in connexion therewith feed rollers also placed in a yielding frame, the parts being arranged so that the planers and feed rollers may conform to the curvatures of the stuff and perform their respective functions equally as well as if they were stationary and operating on straight stuff or stuff with parallel sides.

Claim.—The combination of the elastic or yielding frames B B I, provided respectively with planers G G and feed rollers K, and arranged relatively with each other, so as to operate as and for the purpose set forth.

No. 20,527.—JAMES A. WOODBURY, of Winchester, Massachusetts.—*Improved Planing Machine*.—Patent dated June 8, 1858.—The tongueing and grooving cutters *m n* are placed upon horizontal plates *o p*, and applied to the top of the vertical shafts *q r*. These shafts turn in boxes or bearings *st st*, said boxes projecting from two sliding frames or bars *u v*, which slide freely in transverse directions on two horizontal fixed shafts *w x*. The movable guide L is made to turn or swivel on the shafts *r* of the cutter stock. The under cutter stock C is placed at or near one end of the frame, so that the cutters may be readily got at for the purpose of changing, arranging, or sharpening them.

The inventor says: I *claim*, first, protecting the face of the board in tongueing and grooving by pressure surfaces, constructed and operating with rotary cutters as described.

Second. The swivel guide L, when made to operate substantially as described.

Third. Placing the under cutter at or near the end of the frame for the purpose specified, substantially as described.

No. 19,702.—JOSEPH W. KILLAM, of East Wilton, New Hampshire.—*Improved Method of Clamping Polygonal Pieces in Planing Machines*.—Patent dated March 23, 1858.—The stick to be planed is put upon the carriage in the corner groove formed by the triangular piece I and the sliding piece L, and made fast by means of the dogs J and K, and in the hub or head H is adjusted to the proper height by turning the screw *d*, and also adjusted laterally by turning the screw *h*, so as to have the cutters *f* operate on either or both of the upper sides of the stick as required.

Claim.—The triangular piece I and the sliding piece L and the dog K, in combination with each other, for the purpose described.

No. 20,762.—SANDS F. FORMAN, of New York, N. Y., assignor to HENRY Z. DREW, of said New York.—*Improved Device for Securing Cutters in Rotary Planing Machines*.—Patent dated June 29, 1858.—The cutter *d* is inserted into a mortise planed across the stock *b* immediately below the cutter or knife *c*, and the cutter *d* is of such a

size that when inserted while the screws 1 1 are slackened, the said cutter *c* will bind on to and firmly clamp the cutter *d* when the screws 1 1 are screwed in tightly; and to prevent any sidewise motion the screw 2 is inserted and takes against the said cutter *a* and clamps it in the direction of the axis of the cylinder.

The inventor says: I do not claim a beading or rebating cutter attached to the cylinder of a planing machine in itself.

But I *claim* securing a beading or rebating cutter into a slot in the stock of a planing machine cylinder by pressure from the straight cutter or knife, and from a screw running nearly parallel with the axis of the rotary cutter, substantially as and for the purposes specified.

No. 20,999.—IVERS GIBBS, of Worcester, Massachusetts.—*Improved Stock for Holding the Cutters in Rotary Planing Machines*.—Patent dated July 27, 1858.—This invention consists in an oval hollow planer arm for wood planers.

A is an oval bar with a vertical hole or eye E through its centre to receive the spindle or shaft of the planer upon which it is fastened. At each end of this bar there is an opening C C in which the knives or cutters are made fast. This bar or arm is hollow, the cavity H running into each of the openings and also into the eye.

The inventor says: I am fully aware that many things have been wrought and cast hollow, for the sake of strength and lightness. This I do not claim.

But I *claim* a planer arm of the external form described, and having both longitudinal and vertical openings through it, for the purpose and in the manner set forth.

No. 21,720.—C. B. COTTRELL, of Westerly, Rhode Island, assignor to Himself and NATHAN BABCOCK, of said Westerly.—*Improved Machine for Planing Wood*.—Patent dated October 5, 1858.—This invention consists in the use of rotating cutters and central stationary gauge used in connexion with an adjustable gauge whereby the designed work, to wit, the planing of wood, may be performed in a smooth and perfect manner.

Claim.—The rotating cutters *b b* and central stationary gauge D, in connexion with an adjustable gauge F, or its equivalent, arranged to operate as and for the purpose set forth.

No. 19,110.—GEORGE S. COLBURN, of South Reading, Massachusetts, assignor to CYRUS WAKEFIELD, of South Reading, Massachusetts.—*Improved Device for retaining in proper position the Splitting Knife in Rattan Machines*.—Patent dated January 12, 1858.—That the knife B may move horizontally a distance equal to one-half the distance moved by the roll I, a pin *h*, rising from the centre of the lever K, enters a hole in the block D, and thus this block, with the knife, is moved laterally a distance equal to one-half of that passed through the roll I. It will be perceived that by this arrangement the roll I is preserved in the plane of rotation of the stationary roll, whenever it is moved by the varying size of the rattan, while the splitting knife

is held intermediate between the two, whatever may be the size operated upon.

The inventor says: I do not claim connecting a yielding feed roll to the splitting knife, so as to maintain midway between the feed rolls, as in the patent of James Sawyer of April 7, 1857.

But I *claim* connecting the roll with the knife that it shall always remain parallel with the stationary roll, as set forth.

No. 19,454.—CHARLES STRONG, of Hartford, Connecticut.—*Improvement in Saw Mills*.—Patent dated February 23, 1858.—Motion is communicated to the saw from beneath by the crank and pitman I J. The pitman J is attached to the stirrup F. In attaching the pendants D D², fig. 2, to the frameworks the main levers A A¹ are brought to a horizontal position; the upper pendants D are then set with their lower ends inclining from a vertical position to the right, at an angle equal to the angle of oscillation, and then the lower pendants D² are set in an exact vertical position, so that when the levers A A¹ are elevated the upper pendants D will be vertical, and the lower ones D² will have their upper ends inclining to the left, at an angle equal to the angle of oscillation, as shown in the engraving.

Claim.—The arrangement shown and described of the working levers A A, axis B, oscillating pendants D D¹, bracket lever E, hinged at *b* b¹ to levers A A, and at *g* g¹ to braces G G¹ and stirrups F F¹, counter levers *k* k¹, straining rods *o* o, and rockers *p* p¹, the above parts being combined and operating substantially as and for the purposes set forth.

No. 21,588.—JOHN PEMBERTON, (deceased,) late of Jonesborough, Indiana.—*Improved Saw Mill*.—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim as new the devices enumerated, but simply their relative arrangement as specified, for the purposes set forth, to wit: First. The roller T, ropes *t* and *u*, to raise the bars M and M¹, in combination with the pin *b*, slide X, lever *w*, bar N¹, and rock shaft P, with its arms, rod *q*, and lever *q*¹, the whole being so constructed and arranged as to throw the feeding out and the backing devices into gear, by operating the lever *e*¹, and move the gate or valve to reduce the speed of the mill at the proper time, or after the saw cuts through the log.

Second. The arms J, rock shaft S¹, and bar S, in combination with the projection or stop *e*, connected to the lever E, or its equivalent, to turn the ratchet wheel shaft and traverse the rack to set the log, as described.

Third. The ratchet wheel F¹, bent lever and pawl G, in combination with the pin *f*, or its equivalent, in the lever F, to stop the ratchet wheels when they have moved far enough, so as to prevent the log from being moved too far when it is set for a new cut.

Fourth. The pin *n* in the head block, and slide X, in combination with the lever W, which releases the hook V¹, to let M¹ M descend to increase the speed of the mill, as described.

Fifth. The rod *a* and stop L, in combination with the slide Y and

lever U, so constructed and operated as to hold up the bar M, after the log is sawed, and prevent it from descending and increasing the speed of the mill, and at the same time stop the apparatus which sets the log.

No. 22,268.—SAMUEL R. SMITH and PHILANDER P. LANE, of Cincinnati, Ohio, assignors to LANE & BODLEY, of said Cincinnati.—*Improved Saw Mill*.—Patent dated December 7, 1858.—This improvement consists, first, in an arrangement of "setting" mechanism which admits of the head blocks being placed in an effective communication with the setting lever, at any distance asunder, without disconnecting the parts.

Second. In an improved arrangement of devices for restraining and regulating the lateral play of a circular saw.

Third. In means of preventing the clogging of certain parts of the machinery with saw dust.

The inventors say: We *claim*, first, the longitudinal rack bar *l*, combined, as described, with the segment wheel K, pinion *j*, and accessory rack *i*, so as to admit of the head blocks being placed in gear at any required distance asunder, without disconnexion or adjustment of parts.

Second. The described arrangement of the collar G, box H, cushions L, and temper screws J, whereby the saw may be fixed rigidly in any position, or allowed lateral play to any desired extent, and return automatically to its normal plane when released, and by means of which the position of the said normal plane may be varied at pleasure.

Third. The perforations 5, applied to the transverse racks *p*, in the manner and for the purpose explained.

No. 20,910.—HIRAM WELLS, of Florence, Massachusetts.—*Improved Saw Mill Block*.—Patent dated July 13, 1858.—This is an improvement on a former patent granted to this inventor, June 9, 1857. In that invention the dogs of both the head and tail blocks were operated simultaneously, by means of a rack bar connected to the dog bars by means of levers, pawls, &c., arranged so as to form a comparatively complicated device. The object of the present invention is to attain the same ends by a simpler arrangement of parts, less liable to get out of repair, and of cheaper construction.

Claim.—Operating the dog bar I of the block C by means of the lever K fitted in the underside of said bar, the ribbed plate D, connected with the bar F by the obliquely slotted plate E, and pin *b*, the whole being arranged and applied to the carriage, substantially as and for the purpose set forth.

No. 20,660.—J. COMLY PAST, of Wilmington, Delaware.—*Improved method for clamping and laterally feeding the log in Saw Mills*.—Patent dated June 22, 1858.—The nature of this invention consists in providing and applying certain movable dogs or jaws E H, adjusted to the movable upright piece of the head block, which jaws are operated and controlled by a screw X, for the purpose of holding the log securely in place during the operation of sawing it. It also con-

sists in a movable guard or trigger V, applied to the ratchet wheel R, which is operated by the tumbler S in the self-acting attachment, and which gives motion, through the gear wheels and shafts L P, to the upright piece to which the log is secured.

Claim.—The method described of clamping and holding the log, and also the device by which the lateral feed of the log is regulated, substantially as described.

No. 20,147.—JEREMIAH DARLING, of Cincinnati, Ohio.—*Improved Feeding Device for Cross-cut Sawing.*—Patent dated May 4, 1858.—The nature of this invention will be understood by the claim and engravings.

Claim.—The reciprocating table F, suspended at one end, and supported by rollers at the other, to facilitate the operation of cross-cut sawing, substantially as set forth.

No. 19,099.—EZRA PERIN and JOHN Z. PERIN, of Connorsville, Indiana.—*Improved Horse-Power Machine for Cross-cut Sawing.*—Patent dated January 12, 1858.—In the engravings H is the horse-power. At the foot of the horse-power is erected an upright frame E, from which extends two timbers *a a*¹, constituting the ways of a slide piece C. This slide is reciprocated from the rotation of the foot shaft *b* of the horse-power, through the wheels *w w*¹, crank shaft *c*, pitman *d*, rock shaft *r*, and pitman *e*—pitman *d* connecting crank *f* with arm *g* of the rock shaft, and pitman *e* connecting arm *i* of the rock shaft with stud *j* of the carriage or slide piece C.

The object of this machine is to saw logs short lengths.

The inventors say: We *claim* the combination of the saw frame and slide piece C, with the combination of devices communicating the motion of the horse-power, arranged and operating as described.

We also claim making the head shaft of the power movable vertically, and combining the same with roller *m*, rim *n*, lever, and lifting piece, for the purpose set forth.

No. 19,128.—EDWIN P. CAVETT, of St. Louis, Missouri.—*Improved Device for adjusting two Circular Saws to the same plane in Sawing Lumber.*—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I lay no claim to the “end play.” But one of my improvements is for the government of the end play automatically.

Neither do I lay any claim to the springs, or their arrangement.

Neither do I claim the compound lever D, as such.

But I *claim* the application of the compound lever D to the two saw arbors, substantially in the manner described, whereby the lateral motion of one saw will automatically govern the lateral motion of the other, as set forth.

I also claim the combination of the saw arbor with the hollow mandrel and the air funnel G, whereby a current of air is made to pass through the arbor against the sides of the saw, substantially in the manner set forth.

No. 19,145.—JOHN MAYS, of Yazoo City, Mississippi.—*Improved Sawing Machine*.—Patent dated January 19, 1858.—The frame C is arranged diagonally to a vertical plane so that when the saw swings horizontally it serves for cutting the logs into blocks for firewood, and when it swings vertically it serves to cut the logs into boards and planks.

Claim.—The arrangement of the angular frame C, diagonally to the vertical plane, so that when the saw swings horizontally it shall serve to cut the logs into blocks or firewood, and when it swings vertically it shall serve to cut the logs into boards or planks without any other alteration of the mechanism of mill but a change of the saw and frame from a horizontal to a vertical position, all substantially as shown and described.

No. 19,536.—THOMAS J. ALEXANDER, of Westerville, Ohio.—*Improved Sawing Machine*.—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the combination with the endless chain E, and driving pin *f*, to the reciprocating feed carriage of the carriage slide G, set in independent motion at intervals as described; lever H, and pawl I J, of the feeding ratchet or their equivalents, for actuation of both the longitudinal and cross feeds essentially as specified.

Secondly, I also claim the gear of the cross feeding ratchet wheel K, with the feeding roller L, by frictional contact and support or gear of said roller, through centre points or end pins with lever appliances, or their equivalents at its end or ends, to admit of the free run of the roller independent of its frictional contact with the feeding ratchet wheel, also admitting of the frictional bite of said wheel and roller being established or broken with facility, without interfering with the motion of the ratchet and gear therewith of the actuating pawl or pawls, substantially as and for the purposes set forth.

No. 19,644.—H. H. Low, of Galena, Illinois.—*Improved Sawing Machine*.—Patent dated March 16, 1858.—The bolt O is secured to the bar K by the dogs N N, and the weights H H are sufficiently heavy to keep the frame G elevated and the bolt O above the saw. By depressing the treadle G¹, it forces down the gate F and frame G, and the bolt O is thereby fed down to the saw D, which is rotated by means of a band passing around pulley C; when the saw has made its cut the pressure is removed from the treadle and the weights H H raise the frame G, the bolt O being raised above the saw; when the frame reaches its highest point the bolt O is adjusted by operating the levers L L.

The inventor says: I do not claim separately any of the parts described.

But I *claim* the vertically sliding and balanced bolt gate G and saw D, in combination with the feeding device formed of the bar K, levers L, pawls M, and racks J, the whole being arranged to operate conjointly as and for the purpose set forth.

No. 19,906.—JOHN L. BEADLE, of Marengo, N. Y.—*Improvement in Sawing Machines*.—Patent dated April 13, 1858.—This invention consists in arranging on a strong and substantial frame work a three foot circular saw and a table, which can be raised, in the act of sawing, and lowered at will. And upon the table a cross head so arranged upon ways that, by means of a screw at each end of the cross head, it can be moved to or from the saw or held to its position when set, or to alternate the moving of one end of the cross head forward of the other, in order to obtain the taper of the shingle required and cut the butt of the shingle from opposite ends of the block alternately.

Claim.—The combination embraced in the manner of raising the table with the manner of adjusting the cross head and dogs, as described and for the purposes set forth.

No. 20,184.—HENRY S. VROOMAN, of New York, N. Y., assignor to HENRY ALBRO, of Covington, Kentucky.—*Improved Sawing Machine*. Patent dated May 4, 1858.—This invention consists in a peculiar arrangement of means for operating a reciprocating knife or saw, and also in giving the log a gradually progressive rotating speed so as to compensate for its gradually diminishing diameter while being sawed, and thereby allow the saw to cut the log in spiral or volute form from periphery to centre in a single or continuous piece.

The inventor says: I do not claim broadly the sawing of logs or bolts in volute form, for this has been previously done.

But I *claim*, first, the travelling or sliding collar M, on lever E, as connected with the knife or saw frame B, the pawl arms N N, in combination with the reciprocating connecting rod G, the vibrating lever E, the pawls *w w*¹, and the ratchet wheel O, whereby an increasing rotary speed of the log or bolt U is obtained from the travelling collar M, passing down to a wider sweep of lever E, as set forth, the power being transmitted from the ratchet shaft P to the bolt U, as shown, or by any other equivalent device for the purpose described.

Second. The cutters *p*, attached to the carriage L, operated automatically by and in combination with the vertical screws for the purpose set forth.

Third. The lateral moving knife plate or stock *c*, crank D, operated by and in combination with the vibrating lever E, for the purpose shown.

Fourth. The combination of the knife C, cutters *p*, and the feed movement of the bolt or log U, when the whole are arranged to operate as and for the purpose set forth.

No. 20,870.—HENRY FEATHERSTONE and PETER ENGMANN, of New Orleans, Louisiana.—*Improved Sawing Machine*.—Patent dated July 13, 1858.—The nature of this invention consists in the lateral movement of the saw, which enables the operator to saw with a backward and forward motion. All the movements of the machine are under the control of the sawyer; it occupies a small space on account of doing away with the cumbrous carriage.

The inventors say: We *claim*, 1st. The lateral movement of the saw, as represented.

2d. The suspension guides, with their cups and balls, as applied here, to guide the saw and its connexions with the saw shaft.

3d. The back-bone rack connecting the truck.

4th. The truck and dog, with their movement, by means of the sector and rack, all as shown.

No. 20,995.—WILLIAM H. DOANE and CARLISLE MASON, of Chicago, Illinois.—*Improved Sawing Machine*.—Patent dated July 27, 1858.—The object of this invention is to obtain a self-adjusting feed device, or to so arrange the feed rollers that they will always present the stuff centrally to the saw without any manipulation on the part of the attendant, so far as the rollers are concerned. The invention has also for its object the ready adjustment of the feed rollers, so that the same may present the stuff vertically or obliquely to the saw, as occasion may require.

The inventors say: We *claim* the arrangement of the gearing *k l b b c c*, in connexion with the levers *Q* and feed rollers *R*, so that the rollers may be expanded and contracted without at all interfering with their rotation.

We further claim placing the rollers *R* on the shafts *O*, as shown, to wit: having the rollers hollow, provided with bearings *f*, which are fitted on the upper ends of the shafts *O*, and also provided with pendent pins *g g*, which are fitted over the drivers *e* of the shafts *O*, the upper journals of the rollers being fitted in adjustable bearings *S*, substantially as and for the purposes set forth.

No. 20,886.—A. C. MILLER, of Morgantown, Va.—*Improved Carriage for Sawing Machines*.—Patent dated July 13, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Arranging the head-blocks in long mortises in the side-pieces *F F*, and connecting the outer ends of said head-blocks by overlapping arms or levers *H H* furnished with adjusting holes or an adjusting screw, so that any length of bolt within the capacity of the saw may be held and operated therein, as set forth and described.

No. 19,801.—GEORGE TELFORD, of Pike, N. Y.—*Improved Cross-Cut Sawing Machine*.—Patent dated March 30, 1858.—Motion is given to the shaft *C*, and as the wheel *D* rotates a reciprocating motion is given the bar *H* through the medium of the rod *E* and arm *F*. When the saw *M* has made its cut, it is elevated by drawing down the outer end of the lever *L*, and the log is moved forward by rotating the cylinder *P*.

The inventor says: I do not claim attaching a saw to a reciprocating bar, which is fitted in or allowed to work through an adjustable frame for the purpose of allowing the saw to be elevated so that the log may be fed to the saw, for this device has been previously used. Nor do I claim the swinging guide-bar *N*.

But I *claim* the bar *H* with saw *M* attached to the arm *F*, connecting rod *E*, and wheel *D*, when arranged relatively with each other as shown and for the purpose set forth.

I also claim the bar *H* and saw *M*, operated as shown, in combina-

tion with the log carriage O and cylinder P grooved and armed with spikes; the whole being arranged to operate substantially as and for the purpose set forth.

No. 19,870.—H. H. POTTER, of Carthage, New York.—*Improvement in Saw Mills*.—Patent dated April 6, 1858.—In operating this machine, the front end of the beam A is placed on the log I to be sawed, the log being on the ground, and the opposite end of the beam also resting on the ground. The operator stands on a platform *q* on the bar or beam, and with his right hand operates the lever C, oscillating the same, and thereby communicating a reciprocating movement to the saw E, which works transversely on the log I. The saw is fed to its work by the operator, who presses his foot on treadle H, and thereby, through the medium of levers F G, forces the roller *q* down on the bar D, the rack *l* preventing the lever G from casually rising. When one cut is made the operator raises the front end of the bar or beam, places it again on the log at the proper point for a succeeding cut, and the operation is repeated.

Claim.—Operating the saw E by means of the bent lever C, arranged substantially as shown, in connexion with the feeding device formed of the levers F G and guide *f*; the whole being combined and arranged to operate conjointly as and for the purposes set forth.

No. 19,983.—RICHARD M. COSBY, of Indianapolis, Ind.—*Improved Cross-Cut Sawing Machine*.—Patent dated April 20, 1858.—B is a guide frame; C a spring; D a stick of wood; E a frame or buck; F a bar; G a lever pawl designed to catch in the ratchet H and hold the bar F down upon the wood; I is a weight, and J¹ a rule or measure upon the buck or frame E.

The inventor says: I claim no gain of power by leverage, nor any of the parts described, when taken separately, as new.

But I *claim* the combination of the rocking lever K, spring *c*, and weight J, with the saw-frame, as described and shown.

No. 21,177.—JOHN T. ARMSTRONG, of Jacksontown, Ohio.—*Improved Cross-Cut Sawing Machine*.—Patent dated August 17, 1858.—This invention consists of certain new improvements in the parts of a cross-cut sawing machine for sawing logs into lengths for shingle bolts, fence posts, fire-wood, and other purposes, made portable, to be used in the woods, and to be shifted from place to place to the vicinity of the timber to be cut, if required.

Claim.—The combination of the frame A, wheel E, and guide-rod F, with the frame C and carriage L and saw I, when arranged in relation to each other, and operated in the manner and for the purposes set forth.

No. 21,256.—ALBERT HETH and GAYLON HALL, of Adams Centre, N. Y.—*Improved Cross-Cut Sawing Machine*.—Patent dated August 24, 1858.—This invention is more especially designed for cutting or sawing logs into cord wood for fuel, and consists in a novel means for operating or applying power to the saw whereby the weight of the

operator is made to assist muscular strength, and the latter applied in the most advantageous manner to the saw.

Claim.—The lever G and oscillating platform D connected by the rods F F, and attached to the saw bar or beam J by the pendant I, the above parts being used in connexion with the beam A and cross bar B for the purpose set forth.

No. 21,482.—HARVEY BROWN, of New York, N. Y.—*Improved Endless Sectional Sawing Machine.*—Patent dated September 14 1858.—A is the endless sectional saw; B B the wheels or pulleys upon which the saw is mounted; C C the plummer blocks having set screws D D D D, by which the saw is strained or tightened; E the guide plates; F F F F the saw guides; G the saw teeth; I the wedge to hold the teeth; and H the frame of the machine.

The inventor says: I *claim*, 1st, the form and manner of constructing the sections of my saw, substantially as set forth.

2d. I claim the mode of inserting the teeth in the saw in the manner set forth.

3d. I claim the guide plate E, constructed and arranged as described, when used in connexion with the saw, as set forth.

No. 21,200.—WILLIAM C. HUNTINGTON, of Newark, N. J.—*Improved Reciprocating Sawing Machine for Sawing Plank.*—Patent dated August 17, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I do not claim making the saw guides F G adjustable to different angles with the line of the cutting edge of the saw, to give to the saw a greater or less amount of cut; nor do I claim making the feed adjustable to increase or lessen the amount of feed to be given to the lumber being sawed; nor do I claim a cam-shaped dog for the purpose of alternately taking and releasing its hold to transmit an intermittent motion; nor do I claim straining and tightening the saw by attaching to it a tightening belt.

But I *claim*, 1st, connecting the saw wheels *a b* to the cross-heads *c d* by pivots when the saw is worked without a saw gate, and is strained and tightened by being attached to a tightening belt, as and for the purposes set forth.

2d. The combination of the cam-shaped feeding and retaining dogs *p* and *r*, operating in opposite directions to each other, with the flanged disk *o*, for the purpose of communicating a feed motion to the lumber being sawed, and retaining the lumber firmly in place while the saw is cutting it, as described.

No. 20,696.—HARVEY BROWN, of New York, N. Y.—*Improved Rotary Sawing Machine.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim this device for setting the block, as I have it already in a patent granted to me for a sawing machine, dated November 10, 1857. In arranging the carriage in reference to the saw it should be so placed that the plane of the saw shall be at the centre of the block to be sawed.

What I *claim* is the arrangement of the hoop or band-saw F, operating vertically within a circular horizontal carriage G with adjustable feed motion, by which there is a continuous motion of both saw and carriage, all operating in unison with reference to the desired end when in motion, substantially in the manner and for the purpose set forth.

No. 19,168.—ULYSSES B. VIDAL, of Philadelphia, Pa.—*Improved Scroll Sawing Machine*.—Patent dated January 19, 1858.—This invention consists in attaching the upper and lower ends of the saw to springs, and giving the saw a reciprocating motion by means of a cam F, the parts being so arranged that the saw is properly strained without a sash, and the saw being operated smoothly, all “back lash” being prevented.

In this invention means are used for clearing the platform and work of saw dust, so that the tracing on the work may not be obscured thereby.

The inventor says: I am aware that a cam similar to the one F described has been previously used for operating reciprocating saws, but I am not aware that said cam has ever been used in connexion with springs applied to the saw so as to strain the saw, and at the same time prevent re-action or “back lash,” which would otherwise attend the operation of the same by means of the cam.

But I *claim* the arrangement of the slotted slide H with a cam F, embraced by the friction rollers *g*, and operated in connexion with the springs *ff c c*, all as set forth.

No. 20,900.—E. SIRRET, jr., of Buffalo, N. Y.—*Improved Scroll Sawing Machine*.—Patent dated July 13, 1858.—This invention relates to an improvement in that class of sawing machines in which no saw frame or sash is employed, and which are generally known as “mulley” saws. The invention consists in the peculiar manner of hanging and driving the saw, so that it may be readily strained and kept while in operation at a proper degree of tension, and readily removed from the machine when necessary.

The inventor says: I am aware that revolving cranks have been directly connected to the upper and lower ends of reciprocating saws for the purpose of driving the saws without a frame or sash; but I am not aware that reciprocating bent levers or bell cranks have been employed, and arranged as shown and described, for the purpose of operating the saw, and also allowing it to be kept perfectly strained while at work, and readily relaxed when it is to be removed from the machine.

I *claim*, 1st, the bent levers or bell cranks H I, attached to the cross-heads *e m* of the saw K, and operated by the eccentrics E F, or their equivalents.

2d. Having the upper lever or bell crank I attached to an adjustable plate *c* operated by a screw *h* or its equivalent, for the purpose of readily and properly straining the saw and allowing the same to be relaxed and removed with facility from the machine.

No. 19,166.—HIRAM WELLS, of Florence, Mass.—*Improved Arrangement of Devices to Feed and Gig Back the Carriage in Circular*

Sawing Machines.—Patent dated January 19, 1858.—This is an improved arrangement of means for feeding the “stuff” to the saw, and also gigging back the same by friction.

The inventor says: I am aware that various devices have been employed for feeding the carriage to the saw, and gigging back the same by means of friction, and friction and gearing combined; and I therefore do not claim broadly such device, irrespective of the arrangement and particular means employed for the purpose as shown.

I *claim* the arrangement of the rack V, pinion S, rack-bar P, lever Q, roller I, slot *e*, pin D, and roller D¹, as set forth, whereby the shaft K will be rotated in either direction at pleasure, according as the lever X is moved.

No. 20,150.—WILLIAM M. FERRY, jr., of Ferrysburg, Michigan.—*Improved Device for Governing Lateral Motion of Carriage in Gigging Back in Circular Sawing Machines.*—Patent dated May 4, 1858.—The nature of this invention will be explained by examining the claim and engravings.

Claim.—Providing a short auxiliary rail I alongside the inner rail of the log carriage C, and opposite the oblique inclined gauge-bar G, and furnishing the carriage with an auxiliary wheel J, which has a vertical axis *a*, and having said wheel come in contact with and run against the side of the auxiliary rail, and thereby prevent any lateral movement of the carriage other than that necessary to prevent the log rubbing against the face of the saw and heating the same, and also avoid the scratching of the face of the board by the teeth of the saw, substantially as and for the purposes set forth.

No. 21,345.—WILLIAM D. LEAVITT, of Cincinnati, Ohio.—*Improved Method of Attaching the Spreader to Saws of Circular Sawing Machines.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not wish to be understood as claiming the spreading flange, when taken separately.

But I *claim* furnishing the side of the saw plate with the groove or recess 4, when the spreading flange *y y* is arranged therewith in the manner represented for the purpose of preventing the end of the lumber when being sawed from butting against or catching to the end of the said flange, as mentioned in the specification.

No. 22,107.—DERWIN E. BUTLER, of Chesterfield, Ohio.—*Improved Devices for Clamping and Feeding the Bolt in Fellow Sawing Machines.*—Patent dated November 23, 1858.—G is a bed on which the bolt from which the fellies are sawed is placed. This bed rests on two rods or bars *d¹ d¹*, the ends of which are fitted on arms *e e e¹ e¹* at each side of the bed piece A, said arms being secured to the ends of shafts *f*, which pass through the bed piece. I is a jaw or clamp, which is fitted in the bed G, near the wheel D. This jaw is formed on the upper end of a bent bar *k*, which is secured in the bed by a pivot *i*, and the inner end of the bar *k* is attached by a link *m* to a spring J, which is fitted in the under side of the bed piece.

The inventor says: I *claim*, 1st, the bed piece G, arranged with the rods $d^1 d^1$, arms $e e e^1 e^1$, connected by the bar h and spring H, for the purpose of readily operating the "bolt" L, or feeding and removing the same from the saws, as described.

2d. The jaw I formed on the bent bar k , attached to the bed G and spring J, so that the jaw may be operated to grasp the "bolt," and the "bolt" relieved therefrom by the movement of the bed G, substantially as set forth.

No. 19,774.—WILLIAM HAWKINS and WILLIAM C. CLARY, of Milwaukee, Wisconsin.—*Improved Sawing Mill*.—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We *claim* the manner described of automatically changing the saws after each cut alternately from an oblique position in one direction to an oblique position in a contrary direction to the line of the log carriage by means of the studs p , slide K, double lever D, connecting rods d , in combination with the frame F and the guides n and n^1 , for the purpose set forth.

We also claim the use of the two-wedge rollers or wedges $P^1 P^{11}$, to keep the board clear of the saw while cutting in either direction, substantially in the manner described.

We also claim the combination of pinions i and their pins o , entering into the recesses of plates b , the ratchet wheels g , the ratchets r , the adjustable segments J, the wheels G^1 , the screws G, and the rods k , with their clutches z and v , for the purpose of automatically setting the log to the saw, and stopping the setting when the log frame advances too close to the saw.

We also claim the notched plate t , in combination with the latch g , lever u , and link l^1 , for the purpose of operating the belt shifter l without turning the lever u , substantially in the manner set forth.

No. 21,838.—WILLIAM D. LEAVITT, of Cincinnati, Ohio.—*Improved Re-Sawing Machine*.—Patent dated October 19, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim* the combination of the yoked feed-rollers and clamps extending up to or near the perimeter of the saw, for the purpose of feeding through and pressing out all the warps or bends in the board or plank, and holding them so pressed out until the same acts substantially as described.

I also claim the combination with the yoked feed-rolls and clamps operating together as described, the auxiliary feed-rolls I I^1 , to receive and feed in the next succeeding board or plank without affecting the action of the other rolls on the plank or board being sawed, substantially as described.

No. 19,692.—HARRY H. EVARTS, of Chicago, Illinois.—*Improved Machine for Sawing Staves*.—Patent dated March 23, 1858.—The nature of this invention consists in so forming and arranging the saw and machinery as to enable any one to saw the stave in the direc-

tion of the fibre of the wood, so that the stave, after the stave is cut, will need no further dressing.

Claim.—The arrangement of the machinery as described and shown in the specification, and for the purposes set forth.

No. 20,135.—JAMES BALLA, of Richmond, Indiana.—*Improved Device for Sheltering from Dust the Lower Carrying Pulley of Band Saws.*—Patent dated May 4, 1858.—This invention relates to an improvement in that class of sawing machines in which the saws are attached to straps or bands which pass over pulleys having a reciprocating rotating motion. The object of the invention is to obviate the difficulty attending the accumulation of saw dust between the lower pulley and saw band. This is done by having shields or guards placed over the lower pulley, properly arranged, to protect it.

The inventor says: I do not claim hanging saws by attaching the same to straps which pass over reciprocating pulleys, for this has been previously done.

But I *claim* the shields or guards J J placed over the lower pulley D, when constructed and arranged relatively with the straps H of said pulley, substantially as and for the purpose set forth.

No. 21,651.—J. D. C. CARPENTER, of Cincinnati, Ohio.—*Improvement in Deflecting Plates for Circular Saws.*—Patent dated October 5, 1858.—This saw is made of a central flange B of cast iron, to which the segments D are fastened by screws in the usual manner. The flange B is very thick, and has curved ribs cast upon its convex side, in order to stiffen the flange without straining the metal in cooling. Near the centre of this flange is an annular groove or bearing, into which a ring S of Babbett's metal is inserted. This ring is made adjustable by means of the screws *e*. The deflecting plate A may be cast with ribs on its concave side, and it is to have an annular bearing to meet the ring S.

The inventor says: I *claim*, first, the rotary deflecting plate or spreader A, provided with an adjustable friction bearing S, substantially as set forth.

Second. I claim the cutters *i* placed near the margin of the deflecting plate A, substantially as set forth.

No. 22,252.—REUBEN S. JANES, of Bethel, Vt.—*Improved Guard for Circular Saws.*—Patent dated December 7, 1858.—The nature of this invention consists in so placing an adjustable shield over the edge of a circular saw, with the exception of the space occupied by the log in feeding the saw, shall be completely covered and prevented not only from receiving, but from doing injury to any person who, through accident or inadvertence, might be exposed to contact therewith.

Claim.—The shield G with blade H arranged with or without tongue I for circular saws, operating substantially as described and for the purposes set forth.

No. 19,978.—JOB BATCHELOR, of Camden, N. Y.—*Improvement in Dressing Saws.*—Patent dated April 20, 1858.—The file *a*, which is

the principal agent in this mode of sharpening or gumming saw teeth, is made of good steel, and is about three and a half inches in diameter and one-fourth of an inch thick. It is cut into a file surface on the under side on the edge, and for a short space back from the edge on the upper side. It is capable of being hardened in the same manner as other files, and presenting a large surface of any desired diameter, may be re-cut when desired, and made to last a long time. Both the carriage *f* and base *C* are made of cast iron.

Claim.—The horizontal disk file *a* for the purposes described, and its connexion and combination with the movable parts of the machine by which the same is operated as described; the whole being combined, arranged, and operating substantially in the manner set forth.

No. 20,313.—HIRAM SMITH, of Camden, N. J., assignor to HENRY DISTON, of Philadelphia, Pa.—*Improved Devices Attached to Hand Saws for Squaring and Marking.*—Patent dated May 18, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not desire to claim the graduating of a saw blade, so that it may serve the purpose of a rule.

Neither do I claim broadly so constructing a saw as to answer the purposes of both a hand saw and square in one and the same instrument.

But I *claim* an improvement on the combined hand saw and square for which a patent was granted to Jackson Gorham on the 12th of May, 1856.

First. Riveting the shoulder strips *C C* directly to the blade, and independent of the handle, for the purpose specified.

Second. The combination of the sharpened projection *e* with the graduated saw blade, as and for the purpose set forth.

No. 20,337.—HENRY DISTON and THOMAS L. MORSS, of Philadelphia, Pa.—*Improved Levelling Device Attached to Hand Saws.*—Patent dated May 25, 1858.—On one side of the handle of the saw two spirit levels *a b* are placed at right angles to each other, in such a position that they may be used as a plum and level as well as a saw; placing the two spirit tubes, or levels *a b*, in the handle *B* of the saw, relatively with each other, and the back edge *c* of the saw, substantially as and for the purpose set forth.

No. 19,300.—G. P. KETCHAM, jr., of Bloomington, Ind.—*Improved Method of Straining Reciprocating Saws.*—Patent dated February 9, 1858.—The nature of this improvement will be understood from the claim and illustrations.

The inventor says: I do not claim, broadly and separately connecting a saw at both ends to crank pulleys.

But I *claim* connecting the slides *c c* at both ends of the saw to crank pulleys *a a* on the shafts *B C* by means of pitman *b*, the opposite ends of the shafts *B C* being connected by the crank or cranks *E* and pitman or pitmen *F*, whereby the shafts are made to move simultaneously, and the same relative positions of their cranks and working parts connected therewith retained at all points of their movement, and the

saw D operated or driven, and kept equally strained, or at the same degree of tension, at all points of its stroke, substantially as described.

No. 19,893.—JOHN C. CLIME, of Philadelphia, Pa., assignor to Himself and SAMUEL RHODES, of said Philadelphia.—*Improved Method of Guiding Reciprocating Scroll Saws*.—Patent dated April 6, 1858.—In this invention an ordinary mandrel 6, pivoted at 7 and 8, having a cast steel pinion 9 directly over and gearing into the driving wheel F. When it is desired to adapt the machine to the circular saw, the whole operation is performed by an expert workman within the space of five minutes, and consists in relaxing the swivel L, removing the jig saw X, and the top *b* of the table, then removing the connecting rod 2 by loosening the bolt 10, removing or turning out of the way the cross-head B, and unscrewing the pivot bearing the mandrel, and slipping the circular saw into place between the washer 11 and the mandrel head 12.

Claim.—The employment of a cap 3, in combination with a tubular guide *z*, in the manner and for the purpose substantially as set forth

No. 19,534.—HENRY F. SHAW, of Boston, Mass., assignor to Himself and MOSES H. GRAGG, of said Boston.—*Improved Method of Operating Scroll Saws*.—Patent dated March 2, 1858.—This invention consists in the use of sets of double arms, and attaching the two ends of the saws to the centres of the strips which unite the extremities of said arms; by means of which arrangement the saw is carried up and down in a nearly vertical position.

Claim.—The use of the two sets of double arms, constructed substantially as described, and attaching the two ends of the saw to the centres of the strips E and H, which unite the extremities of said arms, substantially as set forth and for the objects specified.

No. 19,033.—ROBERT LAW, of Portage City, Wisconsin.—*Improved Shingle Machine*.—Patent dated January 5, 1858.—This invention consists in the employment of a pendulous frame B, provided with a proper clamp to hold the bolt I¹, and arranged relatively with a circular saw D, and setting device for adjusting the bolt within the frame; the whole being so arranged that the shingles are cut from the bolt and adjusted so as to be cut in proper taper form.

Claim.—First. The combination of the pendulous frame B which receives the bolt I¹ and the saw D, arranged substantially as and for the purpose set forth.

Second. The peculiar means employed for securing and adjusting the bolt I in the pendulous frame E, viz: the adjustable plate I, loaded cord K, connected with spring L, the corrugated bottom plate F, and lever G, with bar *b*¹, arranged substantially as shown and described.

No. 19,136.—GEORGE DARBY and JAMES E. YOUNG, of Augusta, Me.—*Improved Shingle Machine*.—Patent dated January 19, 1858.—The nature of this invention will be understood by an examination of the claim and engravings.

The inventors say: We *claim*, first, effecting a continuous reciprocating

cation of the shingle carriage by means of a pinion wheel H and the tooth bar F, which has only a single line of teeth *c c*, and is arranged loosely in grooves on the under side of the carriage, so as to be compelled to move with it longitudinally, and yet to be capable of moving laterally to the right and left, independently of it, and at the completion of each stroke of the carriage, of alternately assuming positions which are opposed to one another, and which are oblique or diagonal to the path in which the carriage is moving, and which will allow the pinion to take hold of the opposite side of the teeth, substantially as and for the purposes set forth.

Second. The head-block N, when furnished with a yoke O, which has ears *h h*, and a set screw *g*, in combination with the grooved shingle carriage B, substantially as and for the purposes set forth.

No. 19,199.—ELIJAH MORGAN, of Morgantown, Va.—*Improved Shingle Machine*.—Patent dated January 26, 1858.—This invention relates to the particular device for receiving and holding the bolt *b*, to give it the proper inclination for defining the taper of the shingle, and also to the auxiliary adjustable carriage G, which regulates the angle at which the bolt is brought up to the saw.

The inventor says: I *claim*, in combination with the traversing carriage G, the horizontally semi-rotating piece I, with its flanges *m n* and *m¹ n¹*, operated in the manner and for the purpose set forth.

I also claim, in combination with the carriage G, the auxiliary carriage H, when made susceptible of adjustment as set forth, for the purpose of changing the line or angle at which the bolt is brought against the saw, as described.

No. 19,233 —DAVID M. BOYD, of Indianapolis, Indiana.—*Improved Shingle Machine*.—Patent dated February 2, 1858.—The nature of this improvement will be understood from the claim and engravings.

Claim.—The arrangement and combination of the reciprocating sliding frame D, with the wheels C A and C, when the parts or their equivalents are all arranged as a whole, substantially in the manner and for the purposes set forth.

No. 19,293.—WILLIAM GREGOR, of New York, N. Y.—*Improved Shingle Machine*.—Patent dated February 9, 1858.—The double-edged knife K is attached to the bed-plate A near the centre by means of the pins *p p*, but in such a manner as to allow the knife an up and down as well as an inclined motion forward or backward as may be desired. H H are two rods provided with inclined surfaces *n n¹* at each end, by which the ends of the slides D D are alternately raised up and kept in an inclined position with the surface of the bed-plate.

Claim.—The arrangement of two slides turning upon centres and acted upon by inclined surfaces, which latter are operated by the motion of the bed-plate, as described.

I further claim the attachment of a double-edged knife to the bed-plate in the manner described, moving back and forth with said bed-plate, and at the same time being acted upon by the above-mentioned slides, in the manner as and for the purpose set forth.

No. 19,349.—GEORGE CRAINE, of Fairfield, Iowa.—*Improved Shingle Machine*.—Patent dated February 16, 1858.—The claim and engraving will explain the nature of this invention.

The inventor says: I *claim*, first, in combination with the pivoted reciprocating cradle L, the pawl-lever *w*, ratchet *v*, and its shaft *u*, for tilting said cradle alternately from one side to the other to form the butts and points of the shingle, substantially as described.

I also claim, in combination with the reciprocating carriage, the device for giving to it a slow forward motion and a quick backward motion, viz: the elliptical spur gears E F, with their shafts, cranks and connecting rods, as set forth and represented.

I also claim so arranging the two carriages and two saws as that one shall serve as a check balance or governor to the other, and *vice versa*, by making the sum of the forces of the two saws when sawing to conform to that of one of them when it alone is sawing, the compensation being effected by the comparative length of the kerfs that each or the single saw may be cutting, as set forth.

No. 20,638.—JERRIE R. HALL, of Brunswick, Maine.—*Improved Shingle Machine*.—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim standing the bolt on the end to be sawn sidewise, as the same thing in principle is accomplished by other machines.

Neither do I claim the wheel with alternate long and short teeth.

But I *claim*, first, the combination of rods *q* *q*¹ with their pins 7¹ 7, thimbles 5¹ 5² with their slots 6 8, slaves 2 2¹, and the pawls 1 1², in combination with notched wheels 4 4¹ and feed rollers T T¹, for feeding the bolt to the saw.

Second. The arrangement of frame U in relation to the other parts for fastening and holding the bolt while being sawn.

Third. The hinged fender E with its cord and spring Z.

Fourth. The combination of springs *m*¹ and *n*¹, clutch lever *j*¹, lever R, car *n*, with its catch S¹, cams Q and P¹, in combination with pulleys *l*¹ *l*² and *h* *h*¹ for giving motion to the carriage Y, all of which operate substantially as and for the purpose set forth.

No. 20,876.—ERASTUS HALL and JOEL F. STEWART, of East Randolph, New York.—*Improved Shingle Machine*.—Patent dated July 13, 1858.—This invention consists in the peculiar means employed for feeding and setting the bolt to the saw, whereby the machine is rendered automatic in its operation, or the bolt when applied or adjusted to the carriage, and the machine put in operation, is, by a continuous operation, without attendance, sawed into shingles of proper taper form.

The inventors say: We *claim* the rack J pivoted to the carriage I, in combination with the rod L, plate F, pinion *u*, and lever G, with weight H attached, the parts being arranged as shown, for the purpose of feeding the bolt to the saw and gidding back the same automatically, as shown.

We also claim setting the bolt of the saw by means of the bar M,

provided with the rack *k k*, operated by the backward movement of the carriage through the medium of the wipers *m m* and boss or hub *O* on shaft *N*, provided with spiral ledges *n* and the spring catch *p*, the parts being arranged to operate conjointly and automatically with the carriage *I*, as described.

No. 21,490.—AUGUSTUS DAY, of Detroit, Michigan.—*Improved Shingle Machine*.—Patent dated September 14, 1858.—This invention consists in the use of a riving or splitting knife *E*, jointing cutters *H H*, planers *M*, and a squaring knife *V*, arranged, operated, and used in connexion with retaining dogs and other concomitant parts, whereby the several operations of riving or splitting, jointing, planing, and squaring may be done by one and the same machine at one operation, and the work performed in a perfect manner.

The inventor says: I *claim*, first, the butting or squaring knife *V*, operated by the curved arms *T*, and used in connexion with the stationary knife *V*¹ and adjusting clamps *W*.

Second. The combination of the riving knife *E*, jointing cutters *H H*, planers *M M* and *Z Z*, and butting or squaring knives *V V*¹; the whole being arranged to operate as and for the purpose set forth.

No. 21,744.—JONATHAN CREAGER, of Cincinnati, Ohio.—*Improved Circular Sawing Shingle Machines*.—Patent dated October 12, 1858.—This invention consists in a construction of feed rest by which the bolt or block is forwarded with a specific diagonal presentation to the saw, so that the entire cut is in the direction of the grain; in a device by which the power is made available for advancing the bolt to the action of the saw at the option of the operator, and in devices for insuring the proper discharge of the shingles.

The inventor says: I *claim*, first, the feed rest *D d E* tangential to the saw, at the end toward which the saw cuts, and having a motion parallel to the plane of the saw, as set forth.

Second. In this connexion the feed rolls *G G* and their accessories, constructed to elevate the feed rest by power under control of the operator, as set forth.

Third. The use in this connexion of the elastic fingers *M*¹ *M*, as set forth.

No. 20,704.—K. FREEMAN, of Fond du Lac, Wisconsin.—*Improved Rotary Shingle Machine*.—Patent dated June 29, 1858.—This invention consists in the employment of a horizontal rotating carriage *E*, circular saw *C*, setting plate or bed *F G*, and dogs, so that it will saw shingles with the proper taper from a series of bolts very quickly.

Claim.—The horizontal rotating plate or carriage *E*, circular saw *C*, stationary and setting beds *F G*, and jaws *c d*, in connexion with the roller *K* and arm *o*; the whole being arranged to operate substantially as and for the purpose set forth.

No. 20,174.—A. C. SAWYER, of Canton, N. Y.—*Improved Device by which the Width of the Bolt Checks the Feed in Shingle Machines*.—

Patent dated May 4, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says : I do not claim the use of a race bar N, nor do I claim or limit myself to the use of a rack and pinion feed, as a screw or chain could easily be substituted ; nor do I limit myself to the particular place in which the lever L hangs, whether before or after the saw.

But I *claim* the use of a lever L hanging by the side of the saw in such a manner that the bolt, in running under it, will raise or lower it and adjust the travel of the carriage, for the purpose and in the manner substantially as set forth.

No. 20,501.—ELIJAH MORGAN, of Morgantown, Virginia.—*Improved Device for Operating the Bolt to Obtain Taper in Shingle Machines.*—Patent dated June 8, 1858.—When sawing shingles, and the swings H H are properly set on the roller F, the lever c is changed at every through from the notch 1 to the notch 3, and *vice versa*. When sawing staves or heading, the lever is set at the notch 2. When the notches 1 3 are being used, the switch L is let down so as to allow it to slip past the notch 2 without catching.

Claim.—The combination of the eccentric roller F, the swings H H, and the lever stop and switch, substantially in the manner and for the purpose set forth and described.

No. 19,193.—W. D. GUSEMAN, of Morgantown, Virginia.—*Improved Device for Shifting the Bolt to Effect the Taper in Shingle Machines.*—Patent dated January 26, 1858.—This invention consists in a device for receiving the bolt every time it is dropped from its carriage, so as not only to change the ends thereof from which the butts and points of the shingles are cut, but also to regulate the taper and thickness of the shingle as may be required.

Claim.—The rocking pieces N N, with their adjustable tongues *u u* and boxes *m m*, for forming a bed to receive the bolt and reverse its inclination, so as to cut off the shingles' butt and point and adjust their taper and thickness, as set forth.

No. 20,553.—ELBRIDGE DRAKE, of Gardiner, Maine.—*Improved Device in Feed Motion of Shingle Machines.*—Patent dated June 15, 1858.—When the machine is in motion the carriage will move up until the dog D strikes the lever E, when the slide C will commence moving in the reverse direction, drawing the knee H up until the catch T of the knee I drops under the end of the knee H. The pin M is then at the point N of the slot N, and the projection O of the knee G is resting upon the catch of the knee F.

Claim.—The application to shingle machines of the knee G, combined with the slide C, in such manner as will produce the desired effect, as described.

No. 19,275.—TWENTYMAN WOOD, of Greenwich, Conn.—*Improved Method of Feeding the Bolt in Shingle Machines.*—Patent dated February 2, 1858.—This invention consists in the arrangements of parts

for securing the proper vibrations of the blocks from which the shingles are cut. This vibration is controlled to produce the desired result by the pins *f* working into and out of the notches *g* on the outer edge of the plate *k*, said notches being so constructed and arranged in relation to the other parts that the stock *E* will be vibrated as it is moved to bring the timber under the knife to give the proper shape to the shingle, and bring the point of it at either end alternately, the arms *M* being kept up to the plate *k* by the spring *h*, which is so attached to both arms as to have a tendency to draw them together.

The inventor says: I *claim* the combination of the notched or corrugated guides with the arms *M*, or their equivalents, and an apparatus for setting the block forward to the knife, as set forth.

No. 22,350.—HENRY T. CLAY, of Gardiner, Me.—*Improvement in Shingles*.—Patent dated December 21, 1858.—The nature of this invention consists in the peculiar shape of the shingle, it being so constructed that a portion of the shingle at the butt is made of an uniform thickness, as from *a a* to *b b*, and from the point *b* on the upper side of the shingle it is tapered to the point *c*; thus giving it all the taper on the upper side, as from *b* to *c*, and a perfect straight surface on the under side, as from *a* to *c*.

The inventor says: I *claim*, first, a shingle of uniform thickness at the butt, so far as it is to be laid to the weather.

Second. A shingle that commences to taper at the point on the upper side, where the next layer above covers it, and tapers all on that side.

No. 21,453.—C. L. STORY, of Owensboro', Ky.—*Improved Method of Manufacturing Shingles from the Log*.—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that circular saws, rotary cutters and travelling carriages have been used and arranged in many ways for sawing various articles, and I do not claim broadly the use of such parts, irrespective of their arrangement, as shown.

I *claim* the circular saw *C*, rotary and laterally moving cutters *h h i*, the rotary cutters *a a*, and travelling carriage *I*, arranged and combined, as shown, whereby the shingles are cut from the bolt, tapered and jointed at one operation.

I also claim the particular means described for rotating the bolt *M* at each termination of the movement of carriage *I*, and thereby setting the bolt to the saw, to wit: the screw *n*¹, worm wheel *m*¹, actuated through the medium of the arm *o*¹, rod *p*¹, bar *q*¹, rod *r*¹ and guide ledge *P*.

No. 22,083.—GEORGE H. MALLORY, of New York, N. Y.—*Improved Machine for Sawing and Planing Shingles*.—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The particular means employed for adjusting the bolt *J* to the saw, in order to give the taper-form to the shingle, in combination with the means employed for adjusting or moving the planer *C* to its

work, to wit: the bars $p q$, connected as shown by the pendant q^1 and set screws $t t$, operated by the wiper u and pins $c c$, and attached, respectively, to the bar I , containing the jaws $n n$, which hold the bolt J and the bar v , connected with the planer head D ; the whole being arranged to operate as and for the purpose set forth.

No. 19,167.—MOSES D. and ALPHEUS WELLS, of Morgantown, Va.—*Improved Method of Butting and Pointing the Bolt to be Sawed into Shingles*.—Patent dated January 19, 1858.—The nature of this invention consists in resting the bolt upon two sharp-edged vertical slides $B B$, alternately elevated and depressed by the movement of a horizontal piece D , upon which they rest.

The inventors say: We make no claim to regulating the position of the bolt by an oscillating table.

But we *claim* the vertical knife-edge slides $B B^1$ and horizontal double inclined slide D , in combination with each other, and the carriage and saw, substantially as and for the purposes set forth.

No. 21,886.—LUKE L. KNIGHT and D. H. RICE, of Barre, Mass.—*Improved Spoke Machine*.—Patent dated October 26, 1858.—This invention consists in the employment or use of two carriages, in connexion with a proper cutting tool or tools, arranged and operated so that when the machine is in full operation two spokes are in course of construction at the same time, the desired work produced in a rapid and perfect manner.

The inventors say: We *claim* the employment of two carriages $L^1 L^1$, in combination with expanding cutter heads $O O$, or any proper cutting tool, arranged to operate substantially as and for the purposes set forth.

We also claim the circular saw U , in combination with the expanding cutter heads $O O$, when the parts are connected so as to operate conjointly as shown, to wit: as regards their lateral and rotating movements, and used in connexion with the carriages $L^1 L^1$, for the purpose specified.

We further claim the loaded arms e , attached to the swivels d , the arms forked at their outer ends and used in connexion with the curved bars j ; the whole being arranged substantially as and for the purposes set forth.

No. 20,459.—CHARLES H. WESTON, of Nashua, N. H.—*Improved Spoke Shave*.—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the plate B , provided with arms $b b$, so as to operate substantially as set forth, in combination with the fulcrum arms $a a$, and thumb-screw G , and projections $d d$, both as a cap and holder to the cutter c .

Second. Making the cap or holder B adjustable by means of knobs $e e$ and holes $1 2$, or their equivalents, that it may operate either as a simple cap and holder to the cutter C , or in combination with it as the upper iron of a double iron plane, substantially as described.

No. 20,855.—LEONARD BAILEY, of Winchester, Mass.—*Improved Spoke-Shave*.—Patent dated July 13, 1858.—This invention consists in an improved spoke-shave, constructed with its bearing surface in front of its cutter B¹, applied to the stock by means of a lever C, having an adjusting screw *c* or its equivalent, or an adjusting and a retracting spring I, so applied to it as to enable the bearing surface to be moved either toward or away from the cutting edge of the cutter, in order to diminish or enlarge the chip passage as well as to vary the angular position of the bearing surface with respect to that in rear of the cutter; also in an application and arrangement of a protecting cavity or chamber with respect to the lever and its retracting spring.

The inventor says: I *claim* the improved spoke-shave, as constructed with its bearing surface in front of its cutter, applied to the stock by means of a lever having an adjusting screw, or its equivalent, or a screw and a spring applied to it, so as to enable the said bearing surface to be moved, with respect to the cutter and the bearing surface in rear thereof, substantially in manner as described.

I also claim the arrangement and application of a protecting cavity or chamber within the lever, and to the spring thereof, in manner and for the purposes set forth.

No. 20,642.—ANDREW HAFFER and GEORGE WILKINSON, of Colon, Michigan.—*Improved Machine for Setting Spokes in Hubs*.—Patent dated June 22, 1858.—In order to attach the sweep to the hub the plate B is placed over its front end, the operator grasps the handle A, and then shoves the plate B around by means of the handle E. As the plate B is turned the curved grooves *a* actuate the jaws C and force them toward the centre of the plate B. The jaws are pressed against the edge of the hub and secure the disk A firmly to it and concentric with it. The pawl *h* prevents the casual movement of the plate B.

Claim.—The disk A, having teeth *i* formed on a portion of its periphery, and curved grooves *a* made in its inner face, the plate B, provided with slotted arms, in which jaws C are placed, the plate being provided with a pawl *h* and handle E, and fitted to the disk by means of the pin *f* and nut G, the pin forming the axis of the sweep D; the whole being combined and arranged as and for the purpose set forth.

No. 21,830.—WILLIAM HALDERMAN, of Freeport, Illinois.—*Improved Stave Jointer*.—Patent dated October 19, 1858.—This invention consists in the employment of a rotating polygonal feed-wheel, in connexion with conical cutter-heads, arranged so that staves may be jointed in a perfect manner, and also dressed or cut in proper taper form for the bilge.

Claim.—The combination of the rotating conical cutter-heads I I and the polygonal feed-wheel E, arranged for joint action, substantially as and for the purpose set forth.

No. 19,064.—LEONARD B. AVERILL, of Barre, Vermont.—*Improved Stave Machine*.—Patent dated January 12, 1858.—Fig. 2 represents the top of the main frame, with the shave's pinion wheel, cog wheel and crank, attached to the frame in their proper places.

At one end of the carriage (g. fi3) there is a steel spring, one end of which is bolted to the carriage, the other end is raised from one to two inches above it, and is marked *g*; near the other end of the carriage, and extending to within about twelve or fifteen inches of the end of the spring, a piece of plank is bolted to the carriage, being about two inches thick and of a width sufficient to fill the space between the side-pieces, one end of which is cut down half the thickness for about three inches from the end; near the end of which is a dog to hold one end of the stave to be shaved, and near the edge of the dog there are screws which may be raised or lowered to govern the thickness of the stave to be shaved; near the centre of the last mentioned plank there is another dog to hold one end of the stave to be shaved; one end of the stave is placed on the end of the spring, and the other is made fast by the dog, and in such a manner that the shave will cut a little across the grain; the shave begins to cut over the spring, cuts one side, when the stave is passed to the other end of the carriage and made fast in a similar manner, when the other side is shaved.

Claim.—The arrangement and combination of the different parts of the machine in the manner and for the purpose specified.

No. 19,308.—ELIAS MOORE, WILLIAM CLARK, and JAMES LINDSEY, of Shelbyville, Indiana.—*Improved Stave Machine.*—Patent dated February 9, 1858.—The machine operates as follows: The timber, after a thorough preparatory steaming, is placed upon the table *E* in front of the knife *B* and between the knives *C C*, gauge *F* having been adjusted to the thickness that the stave is desired to be cast, and the knife frame being set in motion from connecting rod *H* after the adjustment of cropping-knives *C C* to the length that the stave is required to be; then the operator moves said stick of timber up to the gauge *F* as the knives move up, and in their downward motion the stave is cut, both in thickness and length, as it is desired.

Claim.—The combination of parts, acting as a whole, substantially as specified, and for the purposes set forth.

No. 19,444.—WILLIAM ROBINSON, of Augusta, Georgia.—*Improved Stave Machine.*—Patent dated February 23, 1858.—The knives *k k*¹ are loosely connected with the carriage *C* and bar *E*, and vary an inclination with the thickness of the bolt. In front of these knives are the cutters *m m*¹, one secured to the carriage and the other to the bar *E*. As soon as the stave is separated it falls into the space behind the guide-plate *F*, and is caught by a spring dog *g* passing through the longitudinal piece *G*. The motion of the carriage is then reversed, and the stave forced by this dog under the spring roller *r* to the double-bitted stationary cutter *s*, which is convex, and dresses the interior of the stave.

Opposite to the plate *H*, and connected with bars *p p*¹, is a plate *H*¹, and at the upper extremities of these bars are attached two plates *I I*¹. These plates have curved slots *t* which constitute the guide of shafts *u u*¹ of two systems of rotary cutters *v v*. The cutter shafts *u u*¹ rest in boxes *x* capable of vertical movement on rods *z*.

The inventor says: I *claim* the self-adjusting bar E and cap-piece D, in combination with the knives *k k*¹, substantially as and for the purposes set forth.

I also claim the combination of the expanding guide-plates with the rotary cutters *v v*, arranged and operating as set forth.

I further claim the longitudinal piece G, spring dog *q*, pressure roller *r*, and stationary cutter S, in combination with each other and the rotary cutters.

No. 20,737.—WILLIAM M. SLOANE, of Buffalo, New York.—*Improved Stave Machine*.—Patent dated June 29, 1858.—This invention relates to operating two rotary adjustable cutters R R in a vertically moving frame F; in the arrangement and combination of the said cutters in relation to a revolving bed, feed rollers or frame; and in the construction of a cam K of a peculiar form for the purpose of communicating the required movement, the frame supporting the cutters.

The inventor says: I *claim* operating the two rotary cutters R R in a vertically moving frame F, substantially as set forth.

Second. I claim the arrangement of the cutters R R and P relatively to the revolving bed A, former L, and feed rollers, for the purposes and substantially as set forth.

Third. I claim the cam K, when constructed according to the formula and used for the purpose as set forth.

No. 19,853.—ABRAHAM HUPP, of Lancaster, Ohio.—*Improved Method of Holding and Feeding the Bolt in Stave Machines*.—Patent dated April 6, 1858.—The nature of this invention consists in the means employed for the purpose of adjusting and holding that portion of the machinery for cutting different thicknesses of staves, and the combined arrangement of machinery for moving and holding the piece of timber to the cutter from which the staves are cut.

Claim.—The combined arrangement of the levers 14 and 15, catch-rod 21, and slides 5 5, arranged with levers *n n* and *m*, pawl 12, ratchet wheel 8, cord 7 7, and plate 6 6, all for holding and feeding the timber R to the cutter, as represented, and for the purpose mentioned in the specification.

No. 21,856.—WILLIAM STEELE, of Wheeling, Va.—*Improved Machine for Cutting Staves from the Bolt*.—Patent dated October 19, 1858.—This invention consists in the combination and arrangement of the machinery in such a manner that an apron can be so attached that it can be held under or back of the knife to support the piece whilst it is being separated from the block, and then swung down or fall back so as to allow the piece to drop from the knife during the return motion of the machine.

The inventor says: I do not confine myself to cutting wood in any particular form or shape.

But I *claim*, first, the use of an apron M hinged to the bed plate K, as described, or otherwise attached to the machine in such a manner that it can be held under or back of the knife to support the piece

during the process of cutting, and then swing down or fall back to allow the piece to drop from the knife.

Second. I claim the combination of the levers L L and stops B and D, as described, or their equivalents.

Third. I claim my improvement to be applicable to machinery for cutting steamed wood for any or all of the purposes for which it is now (or may be) cut.

No. 22,231.—ISAAC W. FORBES, of Jefferson, Wis.—*Improved Machine for Cutting Staves from the Bolt*.—Patent dated December 7, 1858.—Before placing the bolt of wood which is to be converted into staves upon the platform *d*, the operator connects the vibrating edge of said platform with the ribbed segment *m* by throwing the latch bolt *f*, forward into the aperture *s* in said segment, which keeps the edge of the knife in contact with the platform *d* and prevents accidents whilst the operator is placing a block of wood in its proper position upon the platform.

Claim.—The arrangement of the hinged platform *d* and its latch bolt *f* in such a manner, with relation to the concaves *a* and *m* and the knife *b* of the cutter head, that the said parts can be operated substantially in the manner and for the purpose set forth.

No. 19,760.—WILLIAM B. DUNNING, of Geneva, N. Y.—*Improved Rotary Reciprocating Knives for Smoothing Staves*.—Patent dated March 30, 1858.—On the arms D D are attached the circular rims H H H H, and to these rims are attached the smoothing cutters I I I I. These cutters are located at such a distance from the main rock shaft B as to correspond in that respect with the position of the cutting saws G G, and allow the staves to pass directly from the saws through the smoothing cutters, the stave being carried along by the feed rollers K K K K.

The inventor says: I do not claim the vibrating saws, as they have been used before.

But I *claim* the construction, arrangement, and employment of the oscillating cutting tools for smoothing the stave, &c., substantially in the manner set forth.

No. 21,512.—JOHN MCCREARY, of Delaware, Ohio.—*Improved Tenoning Machine*.—Patent dated September 14, 1858.—The nature of this invention consists in the construction of a machine for forming round tenons on wood in such a manner that tenons may be formed either lengthwise or crosswise of the grain of the wood, and of any desired size, the machine being perfectly adjustable. Also in so arranging set screws for increasing the cut of the cutting bits that the edges may be elevated while the backs rest firmly, thus avoiding the trembling of the bits occasioned by elevating the entire end of the bit, as is done in some of the tenoning machines now in use.

The inventor says: Having fully described the nature of my invention, and being aware that many kinds of machines have been invented and used by others for forming round tenons, I therefore do not claim forming such tenons.

But I *claim* the construction and arrangement of the bit-holders, as set forth.

I also claim the manner of applying the set screw, as described.

No. 19,292.—MAHLON GREGG, of Philadelphia, Pennsylvania.—*Improved Machine for Cutting Tenons on Spokes*.—Patent dated February 9, 1858.—This improvement refers to the construction of the cutter head and relates to the manner of securing and adjusting the cutters. The cutter head consists of a tubular piece *G* passing over the end of the spoke *S* and made to revolve in guide *C*. Secured by bolts *l m n* to a flange *p* of this tube, are the cutter carrier *P* and bearer *Q*, the former double branched and embracing the latter. One branch of the cutter bearer runs in a lever *L* for turning the cutter head in its guide. It is adjusted to the size of tenon required by moving the cutter carrier *P* and bearer *Q* in opposite direction.

The inventor says: I *claim* securing the cutters at an angle, substantially as and for the purpose set forth.

I further claim the combination of cutter carrier *P*, bearer *Q*, and tubular piece *G*, substantially as and for the purpose specified.

No. 19,806.—JAMES A. WOODBURY, of Winchester, Massachusetts.—*Improved Rotary Cutter for Tonguing and Grooving*.—Patent dated March 30, 1858.—In the engravings, *a a* represent the cutter head for the tonguing tools, and *b b* the cutter head for the grooving tools. The tongue cutters consist of two lip cutters *c c*, having their sides formed by cutting lips *d d* projecting beyond a chisel cutter *e*; the three cutters are fastened in the cutter head *a a* by screws and bolts *f f*. The groove cutters consist of a lip cutter *g*, projecting beyond and held between the two chisel cutters *h h*.

Claim.—The combination of the chisel cutter or cutters with the lip cutter or cutters, substantially as described.

No. 20,866.—GEORGE DAVIES, of Duquesne, Pennsylvania.—*Improved Tool for Cutting Cylindrical or Tapering Sticks*.—Patent dated July 13, 1858.—This improved implement is designed to cut pieces of wood round and smooth, and either tapered or of uniform diameter for handles of tools and other purposes.

Claim.—The combination of the cylindrical stock *a*, adjustable block *K*, and bit *F*, constructed and arranged as described, forming an improved tool for cutting round or tapered sticks for handles, &c.

No. 22,430.—JOHN HUMPHREY, of Keene, New Hampshire.—*Improved Tool for Slotting Clothes Pins*.—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Arranging knives or cutters to widen or flare the outer ends of the slots in clothes pins simultaneously with the sawing thereof, by having portions of the plate of the saw removed and the cutters secured to the disks or flanches on the arbor, and held thereby independent of the saw, as shown and described; by which arrangement a perfect and complete slot may be cut at a single operation, and the cutters may be quickly and accurately adjusted to any required

position and securely kept therein, or be readily removed when desired, as set forth.

No. 20,693.—WILLIAM BENNETT, of New York, N. Y.—*Improved Socket for Tool Handles*.—Patent dated June 29, 1858.—The nature of this invention consists in rendering the socket, fig. 1, self-fastening, so that when the handle is driven home it becomes permanently fixed and immovable, and not liable to come out, as in the ordinary method of fastening.

The inventor says: I do not claim broadly the socket having the form described, when used independently of the wedge.

Neither do I claim the wedge when inserted into the end of a handle, and both handle and wedge driven into a socket or space having sides parallel with each other, whether such space or socket be closed or open at the bottom.

But I *claim* a tapering socket made widest at the bottom or closed end, in combination with the wedge *b*, constructed as described and for the purpose specified.

No. 22,167.—GEORGE COOPER, of Berlin, Wisconsin—*Improved Arrangement of Cutters for Turning Hubs*.—Patent dated November 30, 1858.—The nature of this invention consists in the arrangement of a preparatory cutter-stock set with a series of edge cutters, and a main cutter-stock set with a finishing cutter made in one piece, or in sections, in the same machine, in such a manner and in such relation to each other that when the cutters of the preparatory cutting-stock are brought into action the cutters of the main cutter-stock are thrown out of operative position, and *vice versa*.

Claim.—The arrangement in the same machine of the adjustable preparatory and main cutter-stocks D E, furnished with suitable cutters, in combination with any ordinary turning lathe or revolving centring shaft, substantially as and for the purpose set forth.

No. 21,443.—ALEXANDER RICKART, of Schoharie, N. Y.—*Improved Machine for Turning Hubs*.—Patent dated September 7, 1858.—This invention relates to a hub-turning machine for which letters patent were granted to the inventor July 1, 1857. The object of the improvement is to obtain by far simpler means the same result that is obtained by the patented machine above alluded to. The claim and engravings will give the reader an idea of the present improvement.

The inventor says: I *claim* rotating the mandrel R of the carriage D from the cutter-shaft B, through the medium of the worm wheel and screw gearing *f h i n*, as described, it being understood that I do not claim broadly and in the abstract the well known mechanical device of a worm wheel and screw gearing, but the parts above named, when arranged with the cutter-shaft B and mandrel K of the carriage D, so that the mandrel K will be connected with the shaft B, and disconnected therefrom at the proper time by the movement of the carriage D, for the purpose described.

No. 20,344.—NEWTON J. GLOVER, of Waveland, Indiana.—*Improved Machine for Turning Irregular Forms*.—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* two traversing and vibrating cutters L L, arranged to work on the opposite sides of the piece of wood turned in the way and manner described.

I claim arranging the nuts or racks of teeth (upon which the screw E acts to traverse the cutters) upon the cutter-bars in such a way and manner that when the cutters are brought into action, the racks R and V will be brought to the screw so as to traverse the cutters, and when the cutters are thrown out of action the racks which traverse them are released from the screw, as described.

No. 22,400.—REUBEN K. HUNTOON, of Concord, N. H., assignor to Himself and JACOB RAND, of said Concord.—*Improved Machine for Turning Tapering Twists on Wood*.—Patent dated December 21, 1858.—The inventor says: I so apply the rests or supports P P of the guides E to the frame A as to enable each of them, or each two of them, to be adjusted or changed in height and afterward fixed in position. This is accomplished by having each guide move freely up and down in the frame, and to be fixed therein by a screw. The driving-gear D which is placed on the mandrel of the twist-block A is applied thereto so as to be capable of being freely turned thereon.

Claim.—The arrangement of the several separate devices described, when operated as set forth, for turning irregular tapering forms of wood.

No. 19,711.—HIRAM PLUMB, of Honesdale, Pennsylvania.—*Improved Machine for Turning Tool Handles, &c.*—Patent dated March 23, 1858.—This invention consists in the employment or use of a series of cutters combined and arranged with a pattern and stops, whereby a series of the desired articles may be turned and cut successively from a bolt or stick in a perfect manner.

The inventor says: I do not claim broadly, and irrespective of the arrangement shown, the employment or use of a pattern in connexion with cutters to a carriage, for such device has been previously used for the purpose of turning various articles.

But I *claim* the employment of roughening-off cutter K, socket J, forming cutter M, pattern O, finishing cutter Q, and stops *k*, combined and arranged to operate as and for the purpose set forth.

No. 21,590.—GILBERT BISHOP, of Fairfield, Connecticut, assignor to EDWARD WHITE, of New York, N. Y.—*Improved Machine for Cutting Veneers*.—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the cutting of veneers from opposite sides of the log by knives arranged and operating in opposite directions, so as to cut with the grain of the wood.

Second. The construction and arrangement of the diagonally-faced side pieces D¹ D² D³, and the sliding frames *g¹ g g*, in connexion with the knives, so as to give the thrust of the knives into the centre of the log, and thus cut the veneer clear from the log.

Third. The arrangement of the wheels H H in combination and connexion with the sliding frames and knives, so as to produce the drawing cut at the same time that the knives are being thrust in upon the log.

Fourth. The combination and arrangement of cam 19, the pair of bars 13 14, the connecting rod 12, and vibrating arm 11, and pawl and ratchet, so as to operate in the manner described, to raise or lower the feed screws.

No. 19,543.—NATHANIEL T. EDSON, of New Orleans, Louisiana.—*Improved Wheelwrights' Machine*.—Patent dated February 2, 1858.—

The form is represented by fig. 3; the centre of the form is provided with a shallow orifice; the outer rim is divided into as many sections as the wheel is intended to contain spokes; there are formed four divisions D near the junction of the spokes and hub. Fig. 2 represents a press frame with a screw B.

Claim.—The form or its equivalent, in combination with the press, substantially as represented and described.

No. 19,928.—SAMUEL HOLL, of Reading, Pennsylvania.—*Improved Wheelwrights' Machine*.—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the advantage of cutting the whole length of the tenons from the circumference of the spokes toward the cutter, thereby economizing time and labor to what all other tenoning machines require, as they commence cutting at the end of the spokes against the grain of the wood; consequently their cutters or bits cannot compete with mine for economy and durability.

Second. The advantage of my machine answering the double purpose of tenoning and hub-boring on the same frame or table work without removing the wheel. I am aware that gearing of different kinds has been heretofore used, but I am not aware that this device or motion of gearing has been heretofore used for the purpose specified; I therefore do not broadly claim the gearing separately.

But I claim the sliding feed rest *c*, or anything essentially the same, in combination with the devices of the open ended shaft R, level gearing V, and 6 check screws, and nuts *e* and *j f*, also feed screw *a*, shaft 7, spur gear 8 and 9, and guide *b*, when arranged as described, and used for the purpose set forth.

I also claim the combination and arrangement of the device for cutting tenons and boring hubs without removing the wheel from the machine, substantially as and for the purpose set forth.

No. 21,002.—WILLIAM HINDS, of Otsego, New York.—*Improved Wheelwrights' Machine*.—Patent dated July 27, 1858.—The claims and engravings will explain the nature of this invention.

The inventor says: My claims to the improvements embodied and combined in this machine over others for the same uses are, that it is constructed in a stronger, more compact, and in a more durable manner, and less liable to get out of repair. That the machine in all its parts is in a form to render its construction simple and cheap, and can

be more speedily shifted and adapted to the different kinds of work to be performed. That it is more simple, easy, and expeditious to use, and works with a precision as exact as man can think or desire.

I *claim*, first, combining regular perpendicular ways, both in the mandrel carriage and in the head-blocks C C, to operate conjointly in adjusting the augers to different positions for boring.

Second. I claim the method of adjusting the hubs for boring by suspending and revolving them on gudgeons in a carriage that vibrates the other way on a pin, and is set and controlled by thumbscrews at *d d*, the revolving motion of the hub being set and controlled by index wheels and the latch at *f*.

Third. I claim the entire construction of the spoke-holder H and carriage, embodied therewith, together with the catch or hook for controlling its motion.

Fourth. I claim the wheel-carriage and plates to be used on the ends of the hub to confine the motion of the wheel to the axis of the hub and axle.

No. 22,193.—GEORGE MULLER, of Sacramento, California.—*Improved Machine for Cutting Curvilinear Surfaces on Angular Pieces of Wood*.—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A concave plane bit, with edges bevelling inward toward the centre, for cutting smooth chamfers of any shape on the edges of railing for express wagons, or on other pieces of wood, and the stand or rest connected therewith in the same machine by means of jaws movable in the frame. The rest or stand may be secured in any desired angle toward the plane, to obtain a chamfer of any desired depth and bevel, and also of different shapes.

No. 19,307.—HENRY MILLER, of Grafton, Virginia.—*Improved Clamp for Holding Rectangular Pieces of Wood while being Bored, Tapped, &c.*—Patent dated February 9, 1858.—This invention consists in combining with a rectangular box A, which holds the cutting tool or tools, an adjustable support for regulating the height of the same, and for sustaining the post G in its vertical position, and a screw clamp I which takes against one of the corners of the post and forces it against the diagonal corner of the frame, to fix the horizontal position of the said post, and to firmly hold the bed-post against the action of the cutting tools.

Claim.—The described apparatus for adjusting, holding, and clamping bed-posts, whilst their previously bored holes are having the screwthreads cut therein, as explained and set forth.

No. 20,137.—THOMAS BLANCHARD, of Boston, Mass.—*Improved Machine for Bending Wood*.—Patent dated May 4, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim broadly what is termed "compound bending," or preventing the fibres of the wood from being

distended longitudinally while being bent in the required form, for this process was formerly patented by me.

But I *claim* the particular means employed for thus bending the wood in the required form, for the special purpose mentioned, that is to say, the employment or use of the rotating mould E, with the strap G attached, in combination with the sliding pressure bar K, provided with the adjustable slide or stop H, the outer end of the strap G being attached to the bar K or box L, and the parts arranged as shown, whereby the strips N may be bent in regular or irregular curved form, with the ends adjoining each other, for the manufacture of picture and slate frames, chair bottom hoops, and similar articles.

No. 19,867.—FRANZ NOETHE, of Brooklyn, New York.—*Improved Machine for Splitting Wood*.—Patent dated April 6, 1858.—This invention consists in the employment of an intermittingly rotating table and plunger provided with cutters arranged in a peculiar way, the above parts being combined and arranged, whereby wood that is sawed into proper lengths may be split into kindling wood with great facility.

Claim.—The intermittingly rotating table or bed D, in combination with the vertical reciprocating cutter shaft F, arranged to operate substantially as and for the purpose set forth.

No. 19,538.—HEMAN A. BARNARD, of Moline, Illinois.—*Improved Method of Bending Several Pieces of Wood of Unequal Lengths at Once*.—Patent dated March 9, 1858.—This improvement will be understood by reference to the claim and engravings.

Claim.—Combining the clamp J, or its equivalent, by which the timber is grasped and held with the strip of metal I and the bending form H, substantially as and for the purpose set forth.

No. 20,016.—AMOS H. BOYD, of Saco, Maine, assignor to SAMUEL F. CHASE, of said Saco.—*Improved Machine for Making Dowel Pins*.—Patent dated April 20, 1858.—The nature of this invention consists in the arrangement of gangs of two or more circular saws, in combination with a clamp carriage, or bed piece, for the purpose of holding and splitting a board or flat piece of wood into strips, and cross cutting the strips into shorter pieces, the wood or board pieces being held firmly and safely in the clamp carriage after as well as before it is divided.

The inventor says: I *claim*, first, the slotted clamp carriage or bed piece, in combination with a gang of two or more circular saws for splitting or cutting off wood, substantially as specified.

Second. The arrangement and adaptation of said circular cutters, in combination with said clamp carriages and circular saws, substantially as specified for the purpose specified.

No. 21,961.—W. O. HICKOK, of Harrisburg, Pennsylvania.—*Improved Die for Cutting Wooden Screws*.—Patent dated November 2, 1858.—This invention consists in making a sectional follower-thread immediately in rear of the first cutter, which shall have the same pitch as the thread of the die, and fill the groove as it is made by the

first cutter and so compel the cylinder of wood, upon which the screw is to be cut, as it is being rotated, to advance to the second cutter within the die at the regular speed required to produce a perfectly uniform screw thereon.

The inventor says: I do not claim the arrangement of two cutters, in combination with the lower die, so as to cause the one to commence and the other to finish the groove which produces the thread upon the cylinder of wood operated upon, as this arrangement and combination is well known.

But I *claim* the reduced sectional thread K, in combination with the first cutter C, when the same is made to operate in the manner and for the purpose set forth and described.

No. 21,960.—W. O. HICKOK, of Harrisburg, Pennsylvania.—*Improved Tap for Cutting Wooden Screws*.—Patent dated November 2, 1858.—This invention consists in constructing the cylindrical projection, at its cutting end, of a diameter slightly larger than the diameter of the required hole in the wood in which the screw is to be cut, and making spirally around on its outer side or periphery a series of minute threads, each of the same pitch as that of the regular, usual screw-threads of the tap.

Claim.—Making screwthreads *d d* around the outer surface or periphery of the cylindrical projection *b*, so that they shall operate in the manner and for the purpose described, the said projection *b* being made slightly larger than the hole in the wood in which the required screw is to be cut, for the purpose described.

XV.—STONE AND CLAY.

No. 22,129.—JOHN L. MASON, of New York, N. Y.—*Improvement in Moulds for Making Bottles*.—Patent dated November 23, 1858.—By this improvement in moulds for blowing bottles, jars, &c., a screwthread is produced on the neck of the jar or bottle of a peculiar character, and which disposes the refuse portion of glass adhering to the top of the bottle-neck on leaving the mould, so that it will preserve the neck of the bottle or jar in perfect form when handling.

The inventor says: I *claim* the combination of the screwthread with the rim *f*, and also its combination with the rim *r*, for the purposes set forth.

I also claim the combination of the grooves in the female screw of the mould with the air passages through the mould, for the purposes set forth.

I also claim the "blow-over," as described, for the purposes set forth.

No. 21,831.—THOMAS R. HEATWELL, of Philadelphia, Pennsylvania.—*Improved Apparatus for Making Glass Stoppers for Bot-*

ties, &c.—Patent dated October 19, 1858.—This invention consists in a certain combination of a hollow block or die with vertical recesses, a spindle and disk with a groove for operating a system of radial punches; the whole being arranged for joint action so as to form glass stoppers.

Claim.—The block or die C, with its vertical recesses, in combination with the spindle D, its grooved disk *d*, and the radial punches *a a*, when the whole are arranged for joint operation substantially as and for the purpose set forth.

No. 21,774.—JAMES OSTRANDER and JONAS S. HEARTT, of Troy, New York.—*Improvement in Manufacture of Fire-Bricks.*—Patent dated October 12, 1858.—The claim will give the reader an idea of the nature of this invention.

Claim.—The manufacturing of fire-bricks, tiles, or blocks of a composition consisting essentially of pulverized steatite or soapstone, raw fire-clay, (with or without kaolin,) and fire-sand or ground "biscuit," or both, the ingredients being mixed in the ratio specified, or in any other available proportions, as set forth.

No. 20,146.—JOHN W. CRARY, of New Orleans, Louisiana.—*Improved Brick Kilns.*—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the peculiar arrangement and manner described of constructing the furnaces so that, by means of the arches B B placed as specified, and constructed of brick or other argillaceous substance, intermediate supports of grates or otherwise for the fuel are rendered unnecessary.

Second. The peculiar arrangement of auxiliary ash-pits or air chambers C¹ with main air chambers or ash-pits C and arches D¹ D¹, formed by setting the brick zigzag and alternately diagonal, as specified, for the purpose set forth.

Third. The specified manner of constructing the brick arches D¹ D¹, when the bricks are "set" as specified, so that the horizontal area of their interior chamber shall be greater than that of the throat of the furnaces, for the purposes set forth.

Fourth. The specified zigzag and alternately diagonal setting of the brick throughout the kiln, for the purpose set forth.

Fifth. The specified arrangement and construction of auxiliary end arches and furnaces, in combination with the main side arches, for the purposes set forth.

Sixth. The specified arrangement of vertical flues and horizontal passages in the wall, in combination with the partly open top and the furnaces, for the purpose set forth.

No. 19,236.—CHARLES CARNELL, of Philadelphia, Pa.—*Improvement in Brick Machines.*—Patent dated February 2, 1858.—The nature of this improvement will be understood from the claim and engravings.

The inventor says: I *claim*, first, the piece F in two divisions composed of three plates, and the friction pins arranged alternately in

combination with the levers M and M¹ and adjustable lugs N and N¹, so as to give M M¹ any requisite amount of motion.

Second. I claim, in combination with the feeding device X X¹, the slip clutch 2 and the forked rod 6, the whole constructed and operating as and for the purposes set forth.

Third. I claim, in combination with the feeding device X X¹ and carriage U, the guide 19 and revolving table 18, for receiving the filled moulds from said carriage and delivering them at the side of the machine; the whole being constructed and operated in the manner set forth and described.

No. 19,366.—GEORGE O. HOUCK and HENRY GORE, of Springfield, Ohio.—*Improvements in Brick Machines*.—Patent dated February 16, 1858.—This invention consists in a novel device connected with the pressing mechanism, whereby this mechanism may be rendered inoperative while the tempering device is in operation. It also consists in the peculiar means employed for presenting the moulds G to the press-boxes and for cutting off the excess of clay.

The inventors say: We *claim*, first, the boxes or followers F F, applied to or fitted on the ends *c c* of the frame E and connected thereto, substantially as shown for the purpose set forth.

Second. The hinged plates or shelves *e*, which receive the moulds attached to the frame A, as shown and used in connexion with the stationary frames M and sliding frames H, provided with the wires *g*; the whole being arranged to operate as and for the purpose set forth.

Third. The sliding frames H, provided with the wires *g*, or their equivalents, and connected with the springs *t* in connexion with the spring catches I, the above parts being arranged so as to be operated automatically from the reciprocating follower frame E, substantially as and for the purpose specified.

Fourth. The strips or ledges *h* placed within the box B, substantially as and for the purpose set forth.

No. 19,470.—DANIEL LOMBARD, of Boston, Mass., assignor to Himself and GEORGE F. RICHARDSON, of said Boston.—*Improvements in Brick Machines*.—Patent dated February 23, 1858.—In the operation of the machine the hopper B is charged with wet clay. The mixers D D break it up and reduce it to a proper consistency. The moulding wheel forces it forward under the gauge, which, by its resistance and inclined under surface, causes the clay to pass the moulds and depress the pistons in case their own weight should not cause them to descend in the matrices. In passing under the condensing roller the clay is rolled into and forced into the moulds. The scraper next operates to reduce to a plane surface the rolled surface projecting from each mould.

The inventor says: I *claim* combining with the brick-making machinery a means of heating the condensory roller F, as described.

I also claim the combination of the gauge E, constructed as described, the scraper G, and the condensing roller F, with the hopper B, the moulding wheel C, and mixers D D, the whole being arranged as and for the purpose specified.

No. 19,792.—J. L. RANSOM, of Charleston, S. C.—*Improved Brick Machine*.—Patent dated March 30, 1858.—When the box B is supplied with tempered clay and a mould Q placed on the bar L, the bar is elevated by turning down the upper end of lever P, and the mould Q is forced upward directly in front of the grating F. The lever E is then actuated, which forces forward the follower C, and the clay is forced through the grating F into the mould Q. The scraper G smooths off the face sides of the moulds, removing all superfluous clay.

The inventor says: I *claim* the box B, provided with the follower C, in combination with the roller frame I, feeding-bar L, and scraper G, when the whole are arranged relatively with each other, so as to operate substantially as and for the purpose set forth.

I also claim the adjustable roller *i*, arranged as shown, and operated by means of the cams *l* on shaft J, substantially as and for the purpose set forth.

No. 20,109.—J. Z. A. WAGNER, of Philadelphia, Pennsylvania.—*Improved Brick Machine*.—Patent dated April 27, 1858.—This invention consists in the employment of two wheels, the peripheries of which are notched or recessed in such a way as to form, as the wheels rotate and the projections formed by the notches come in contact, rectangular chambers or moulds, into which the clay is compressed by the rotation of the wheels which work through the lower part of a hopper in which the clay is pressed.

The inventor says: I *claim*, first, moulding and pressing bricks by means of the two rotating wheels C C' and hopper H, or its equivalent, the wheels having their peripheries notched or recessed as shown, so as to operate substantially as and for the purpose set forth.

Second. Having the hopper H formed of two parts and arranged substantially as shown in connexion with the plates I I', so that the sides of the hopper and the plates may be adjusted to the wheels to prevent the escape of clay between their ends and the sides of the hopper and plates.

Third. Pin L, operated from the wheel J by the rod K, with its wedge *a* and spring *l*, substantially as shown, where said pin is used in connexion with the moulding and pressing wheels C C' and hopper H, or its equivalent, substantially as and for the purpose set forth.

No. 20,107.—STEPHEN USTICK, of Philadelphia, Pennsylvania.—*Improvement in Brick Machines*.—Patent dated April 27, 1858.—This invention is an improvement on the machine patented by the same inventor June 7, 1857, and September 8, 1857, and consists in the peculiar construction of the clay charger and parts attached to the same, and of the lower piston and parts connected with it, by which the mould is filled deeper along its sides and ends than in the main area of the same; also in a peculiar construction of the piston facings, by which they are expanded readily to compensate for the wearing of their edges, and a novel device for regulating the depth of the clay in the condensing mould, and at pleasure cutting off the communication between it and the hopper.

The inventor says: I *claim*, first, the combination and arrangement of the filling box E^2 , scraper E^3 , and guides $b^1 b^1$, or their equivalent, as an improvement on the filling box E^2 in the machine for which letters patent were granted to me on September 8, 1857, when said parts are constructed and arranged to operate substantially as described.

Second. The piston K and plunger K^3 combined and arranged to operate in the manner and for the purposes set forth, the plunger K^3 being operated by the spring K or its equivalent.

Third. The grooves l^1 in the facing l of the piston K^1 , and the grooves m^1 in the facing m of the plunger K^3 , constructed substantially as described for the purposes above stated.

Fourth. The curved piece U in combination with the segmental piece v and pin n , arranged as described.

No. 20,594.—GEORGE L. SMULL, of Meadville, Pennsylvania.—*Improvement in Brick Machines*.—Patent dated June 15, 1858.—The clay is put into the hopper E, and in this hopper is hung a shaft L with flanges on its lower end constructed in the form of the flanges of a screw propeller; on the upper end of this shaft is a pinion wheel k hung loosely and made to revolve like the pinion G by means of a pawl l, and a catch in the upper surface of the wheel like 12. The wheel K is made to revolve on the shaft L in an opposite direction from x by placing the pawl and catch in a reverse position from G, so that the shaft L revolves while the wheel C is standing still, and as there is a mould under E at this time, the clay is forced into it by the flanges at the end of the shaft L, and is filled ready for use.

The inventor says: I *claim*, first, the moulding wheel C in combination with the press V, toggle joint P, and the incline plane O, for operating the followers U U, when these several parts are constructed, arranged, and operated as described, and for the purposes set forth.

Second. I claim the hooks S, constructed as described, and operated by the crank J for operating through the rod R, the toggle joint P, in the manner and for the purpose set forth.

Third. I claim the half wheel I in combination with the pinions H and G, cranks n and m , and connecting rod 11, for giving intermittent motion to the moulding wheel C, when the several parts are constructed, arranged, and operated as and for the purposes described.

No. 20,536.—GERARD BANCER, of New York, N. Y.—*Improvement in Brick Machines*.—Patent dated June 15, 1858.—W is a hopper, into which the pulverized clay is put for delivering it to the reciprocating feed-box X. This feed-box X is secured in suitable guide-ways upon the frame A, so that its lower surface is on a level with the upper surface of the moulding plate C. Attached to the upper back edge of the feed-box is a flange Y , and a similar one Y^2 attached to the lower front edge of it.

The inventor says: First. I *claim* the use of the flanges Y and Y^2 in combination with the feed-box X, and rotating moulding plate C, or equivalents, substantially as described and for the purposes set forth.

Second. I also claim the use of the air expeller piston Z in combina-

tion with the rotating moulding plate C and the flange Y^2 , or equivalents, actuated simultaneously with the feed-box, for the purpose substantially as described.

Third. I also claim, in combination with the rotating plate C, the reciprocating feed-box X, having the flanges Y and Y^2 attached thereto, the bell crank f^2 , pin k^2 , on the cam a^2 , when these several parts are constructed and operated in the manner and for the purposes set forth.

No. 20,612.—FRANCIS ALLEN, of Boston, Mass.—*Improvement in Brick Machines*.—Patent dated June 22, 1858.—Directly under the hopper B is an endless mould carrier C, constructed of a series of sections or boards $a a a$, hinged together and supported by two drums D D and sets of friction rollers E E E. Each of these sections is made of a length sufficient to give support to two moulds when placed on it, as M M^1 , fig. 1. The prismatic drum N is for the purpose of striking the clay off the mould. Over the striker N is a clearer or board O, which is arranged in such manner as to clear or scrape each edge of the prismatic striker during the revolution of the striker.

The inventor says: I do not claim the use of a single bar or striker.

But I *claim* the combination of the prismatic striker N and its edge clearer O with the hopper B and the mould carrier C, when the several parts are constructed and arranged as described.

I also claim the application of the mould joint coverer or bar G to the discharging passage of the hopper B, and so as to cover the joint between the two abutting ends of two moulds M M^1 , as specified.

I also claim the arrangement of each mould directly over a joint between two sections $a a$ of the mould carrier, and so as to cover and protect the said joint in combination with the projection and recess, or the equivalent thereof applied to the mould and the carrier, and to operate substantially as specified.

No. 21,025.—S. C. SALESBURY, of Milwaukie, Wis.—*Improvement in Brick Machines*.—Patent dated July 27, 1858.—This invention consists in certain improvements in making brick and pottery by machinery.

The inventor says: I *claim* the large cylinder M in combination with a series of small cylinders I, spring guard plates $a^1 a^1$, and die box a^2 , the whole being arranged and operating as set forth.

I claim cutting the bricks of the required lengths from the continuously moving body of clay, by means of the double knife passing through the forming die, in the manner set forth.

No. 21,186.—J. W. CRARY, of New Orleans, La.—*Improvement in Brick Machines*.—Patent dated August 17, 1858.—The nature of this invention consists, first, in the combination of an annular rim or concave moulding surface, with a roller or concave pressing surface, so that the bricks are moulded by pressure operating to the circumference, and discharged in a direction toward the axis of said concave moulding surface.

Second. In arranging a pug mill for the preparation of the dry clay,

to work in connexion with the first feature of this invention by means of gearing.

The inventor says: I *claim*, first, the combination of an annular rim or concave moulding surface with a roller or convex pressing surface, so that the bricks are moulded by pressure operating toward the circumference, and discharged in a direction toward the axis of said concave moulding surface, substantially as and for the purposes set forth.

Second. Arranging a pug mill for the preparation of the dry clay, to work in connexion with said first feature of my invention by means of the gearing described, substantially as and for the purposes set forth.

No. 21,458.—HENRY WHITE, of Cleveland, Ohio.—*Improvement in Brick Machines*.—Patent dated September 7, 1858.—The following is the mode of operating this machine: The clay having been properly prepared in the usual way, care having been taken to remove the stones, and the clay or pug having become sufficiently dry to break up into fragments under a rake, is thrown into the grate, through which it falls into the buckets of the elevator, and is carried up and thrown into the chute U, and thus through the hoppers and feed-box into the mould, where it is pressed by the combined action of cams 1 and 2, both from the upper and under side; the upper plunger is intended to press the clay into the mould, but not to a definite thickness; while the process of pressing the brick is being performed, all the other parts of the machine are at rest, or nearly so. The brick being pressed, and the upper plunger raised up about two inches, and the feed-box raised up, the plane is made to pass over the top of the mould and cut away all surplus clay; then the mould is spread and the brick raised above the top thereof, and carried off on the endless apron.

The inventor says: I *claim*, first, the bevelled joints of the mould, as arranged and for the purpose specified.

I also claim the mechanism, as described, when relatively arranged and combined in its several parts, as set forth and for the purposes specified.

No. 21,545.—JOHN BOOTH, of Mobile, Alabama.—*Improvement in Brick Machines*.—Patent dated September 21, 1858.—The operation of the machine is as follows: The clay in its crude state is received into the chamber B, where it is subjected to the action of inclined blade F, which tempers and forces it through the perforations *t* into the chamber C. Shaft D being revolved in direction of arrow, cam S secured to the shaft acts upon the projection *n*, and causes the mould I¹ to be brought in position as shown in engraving, fig. 2. When the mould filler K forces the clay through the openings *l* in the bottom of chamber C into the mould and completely fills it, causes it to be compact and removes the surplus clay. The mould is then withdrawn by the action of cam S upon the projection *n*¹ and platform O¹.

Claim.—The chambers B and C separated by the perforated floor *a*, in combination with the spring blade F, scraper K, and reciprocating mould carriage H, all constructed, arranged, and operating substantially as and for the purpose set forth.

No. 21,888.—JOHN KUTTS, of Philadelphia, Pennsylvania.—*Improvement in Brick Machines*.—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the main cylinder F when constructed and arranged in the manner and for the purpose specified—that is to say, with the stationary hollow axis with the beam or truss J through the same, the eccentric collar H, piston G, with its knuckle joint and shoe K and division plates O, these several parts being constructed, arranged, and operated as and for the purposes set forth. I also claim the arrangement of the double chamber or box beam W over the cylinder F, as described, in combination with the back horizontal pistons *b* and cut-off slide *e*, propelling bars *m* and *n*, and levers *i* and *k*, all arranged for joint operation in the manner and for the purpose set forth. I also claim the compound or double levers A and B, in the box H¹ over the press beam X, when these are constructed and arranged, in connexion with the gearing or fly wheel J, substantially in the manner and for the purpose set forth. I also claim the double rimmed elevating and filling boxes T, Plate 2, Nos. 9, 10, and 11, when constructed as and for the purpose specified.

I also claim the pulverizers A² *a*, when constructed, arranged, and operated in the manner and for the purpose specified.

I also claim the fly or wing wheel for lowering the brick from one belt to another at right angles thereto, when constructed, arranged, and operated substantially as described.

No. 21,876.—THOMAS FORBES, of Kansas City, Missouri.—*Improvement in Brick Machines*.—Patent dated October 26, 1858.—At one end of the mill A a cast-iron box C is attached. This box extends the whole width of the mill, and communicates with the interior of the mill by an opening or passage *c*. Within the box C a cast-iron follower D is fitted, said follower being transversely of sector or V-form, and working on a rod *d* a toothed sector E is fitted, and these sectors are connected with the follower D by a rod *e*.

In each sector E a pinion gears. These pinions F F¹ are attached to a shaft G, and to the pinion F¹ a bent bar *f* is attached, said bar being connected to a crank pinion *g* by a connecting rod H. The rod H is attached to the bar *f*, by having it fitted in a socket *h*, a pin *i* passing through the socket and rod.

Claim.—The arrangement and combination of the variable rods H with the sockets *h*, bars *f*, pinions *g g*¹, and spur wheel I, as and for the purpose shown and described.

No. 20,433.—THOMAS JAMES, of Canton, Maryland.—*Improvement in Manufacture of Brick*.—Patent dated June 1, 1858.—The nature of this invention relates to the compounding of ninety-seven parts of quartz pebbles and three parts of quick lime; the pebbles are crushed to fine gravel and mixed with the lime water; the material is placed in moulds and then burnt in a kiln.

Claim.—In the manufacture of fire-bricks or tiles compounded of the ingredients described, the described process of heating or burning to convert said ingredients into a substantial fire-brick or tile.

No. 19,309.—A. J. MULLEN & ROBERT HALL, of Greensboro', Ala.—*Improved Mode of Burning Bricks*.—Patent dated February 9, 1858.—The nature of this invention will be understood by reference to the claim and illustrations.

Claim.—We claim the construction of a brick kiln with an inclined bottom *a* leading to the drawing pit, when used in combination with the irregular setting of the brick in the kiln, as set forth.

No. 22,119.—JAMES A. HAMER, of Reading, Pa.—*Improvement in Brick Moulds*.—Patent dated November 23, 1858.—C C are two crank rods with a number of cranks upon each rod corresponding with the number of moulds in the frame or box. Said crank rods are also provided with a number of journals or bearings, corresponding with the partitions or divisions of the frame to which they are secured by means of the cap pieces D; the said journals are made eccentric with the body of the rods in order to let the cap pieces in level with the surface of the same, and at the same time allow as much strength as possible to them. The crank rods are thus secured to the partitions or divisions in such a manner that they may turn freely from a horizontal to nearly a vertical position.

Claim.—The two crank rods or their equivalents, as connected with the followers and secured to the frame, and as operated upon by the hand piece; the whole being arranged and combined and operated substantially as set forth.

No. 21,419.—THOMAS HOADLEY, of Cleveland, Ohio.—*Improvement in Machines for Moulding Clay*.—Patent dated September 7, 1858.—The object of this invention is to mould the clay so that it will be of equal density throughout each part or portion of the clay as the process of moulding is carried on, being subjected to an equal ramming, so that when the articles are moulded they will be perfectly free from air-cells, more compact than usual, and consequently more durable and less liable to leak on account of porosity, and also less liable to fracture in baking.

Claim.—The inventor says: I do not claim broadly the employment or use of rammers operated by wipers or lappets, for such device is well known and in common use.

But I claim the rotating mould D and rods or rammers O, in connexion with the rammer elevating plate Q, arranged for joint operation as and for the purpose set forth.

I also claim the guides P P, one or more, attached to the shaft F, and used in connexion with the elastic bands *m* on the rammers, for the purpose set forth.

No. 21,506.—HENRY LEGUAY, of St. Louis, Mo.—*Improvement in Machines for Working Clay*.—Patent dated September 14, 1858.—The nature of this invention consists in making openings and valves in the spaces between the teeth of one or both of the grinding or crushing gears, so that the teeth of one wheel will force the clay or substance ground through said openings into the hollow space in the interior of the other wheel with sufficient pressure to force the substance ground out through

the moulding or forming apparatus applied to the other side of the wheel, either with or without the aid of a screw or carrier in the moulding tube. Also in a cutting apparatus arranged and applied so that it may be operated automatically by the machine or by hand to separate the substance moulded into parts as desired to make brick or other articles.

The inventor says: I *claim* as my invention, in mills or grinding gears for grinding clay or other substances, making openings and valves, substantially as described, in the spaces between the teeth in one or both gears to receive and hold the clay or substance ground, substantially as described.

I also claim, in combination with the grinding gears, the moulding tube, when these parts are constructed and arranged for joint operation, substantially as described.

No. 22,450.—JAMES PILGRIM, of New Britain, Conn.—*Improvement in Cores for Moulding Plastic Substances*.—Patent dated December 28, 1858.—This invention consists in the formation of cores for moulding in plastic clay, cement, and other similar substances of India-rubber, or other equivalent material, and in such manner that they may be inflated and allowed to collapse for extraction from the moulded form, as described.

Claim.—Constructing cores for moulding in plastic clay, cement, or other like substances of India-rubber or equivalent material, so that they may be inflated and collapsed, substantially as described.

No. 22,091.—SAMUEL S. SHINN, of Lancaster, N. Y.—*Improved Mould for Glass Bottles*.—Patent dated November 16, 1858.—This invention consists in constructing the moulds in which the glass bottles are blown partly of clay, plaster of Paris, or other of the earthy matters commonly employed for the purpose, and partly of metal, by which the advantages of the two materials are combined in such a manner as to make a mould superior to one made entirely of either material, like the moulds commonly used.

Claim.—The mould constructed with its stationary portion A of clay, plaster, or material of similar character, clamped between plates B C and the opening portions E E of metal hinged to the upper clamping plate C, substantially as and for the purpose set forth.

No. 22,393.—EZRA WELLS, of Covington, Pennsylvania.—*Improvement in Manufacture of Glass Furnaces and Pots*.—Patent dated December 21, 1858.—This invention consists of an improvement in the art of making pots and furnaces, to be employed in the manufacture of glass and glassware, by the use of black American clay.

The clay is prepared by grinding it very fine and then sifting it through a fine sieve. Thus prepared the clay is mixed with water into a paste hard enough to handle. This paste is then thoroughly trodden twice a day for two weeks, when it is fitted for working into pots or into blocks for making furnaces.

Claim.—A new article of manufacture, namely, pots and furnaces

made of the black American clay, for use in manufacturing glass and glassware, substantially as set forth for the purposes described.

No. 19,569.—ALEXANDER LINDSAY, of Malone, New York.—*Improvement in Machinery for Polishing Glass, &c.*—Patent dated March 9, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I do not claim producing a simple rotary motion of grinders or polishers, or the surfaces to be ground or polished by the friction produced by the rotation of the opposed surface or surfaces.

But I *claim* the arrangement of the grinders or polishers, substantially as specified, whereby they are caused to derive a compound rotary motion such as is specified, by the friction produced upon them by the rotary motion of the surface or surfaces to be ground or polished, or, what is equivalent, the reverse arrangement by which the surface or surfaces to be ground or polished are caused to derive similar compound rotary motion by the friction produced by a rotary motion of the grinding or polishing surface.

No. 19,023.—H. R. FELL, of Texas, Maryland.—*Improvement in Lime Kilns.*—Patent dated January 5, 1858.—A represents a kiln constructed with a circular central chamber B suitable for burning limestone and coal together. The basin *a* of this central chamber is similar in form to an inverted cone, and has a discharge opening C through which the manufactured lime discharges; D D represent the air chambers; they are constructed in the building of the wall of the stack, and present in their horizontal section an annular space a^1 intermediately between the inner and outer surfaces of the kiln. The chamber D is double the depth of the air chamber D^1 , and has two internal inlet passages a^2 a^2 , while D^1 only has one *b*.

Claim.—The peculiarly constructed air chambers D D^1 , intermediate between the inner and outer surfaces of the wall of the kiln, and arranged as described, for the purposes set forth.

No. 19,525.—ABNER B. WEEKS, of Rockland, Maine.—*Improvement in Lime Kilns.*—Patent dated March 2, 1858.—This invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim any of the devices shown in the patent of Aaron Jeffries, dated April 21, 1857; nor any of those shown in the patent of Isaac Richardson, dated February 21, 1840.

Nor do I claim a single stack, having at its top a single mouth of discharge, and at its bottom or lower part a wall to extend above such bottom about one-third the height of the stack, the same being as shown in Hebert's Cyclopædia, vol. 2, page 16.

But I *claim* my improved arrangement of a single hopper with respect to two separate stacks, such being placed at or over their upper ends, and so as to flare and increase in width from them upward and communicate with them, as represented and described.

I also claim arranging air or cooling passages horizontally, or with the inclinations as described, under broad, flat hearths of any suitable

material, in the manner and for the purpose as set forth, and in combination and connexion with the furnace of a lime kiln, by means of pipes or passages constructed and relatively arranged as specified.

No. 20,015 — BERNARD ZWART, of Keokuk, Iowa.—*Improvement in Lime Kilns*.—Patent dated April 20, 1858.—In this improved kiln the stone is placed in an oblique vertical stack, to which the flame and gaseous products of the fuel are admitted from the fire chambers below, placed in the centre of the kiln.

The inventor says: I *claim* the construction of a division wall B. in combination with the two adjoining fire-places E and walls g^1 , to secure the even burning of both sides when desired.

I claim the combination of the solid spherical triangle I, in connexion with the form of the canals from R down to K, for the uses and purposes as above more fully described.

I claim the particular construction of the hot air conductors X, in combination with the division wall B, and in combination with the draught flues y , to procure the horizontal draught of hot air, and make the same serviceable, so as to act direct on the limestone in the manner and for the uses as fully described.

No. 20,549.—GEORGE W. CALKINS and HENRY WHITE, of Cleveland, Ohio.—*Improvement in Lime Kilns*.—Patent dated June 15, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventors say: We do not claim any of the parts separately.

But we *claim* the arrangement of a lime kiln, or parts of a lime kiln, as described, that is to say, the arrangement of the furnaces F^1 and F^2 , provided with the diagonal mouths G G^1 G^2 , in combination with the dampers H H^1 and K, the ash pits O, the cold blast aperture P, the flue J, and a hinge chute draw D, when the several parts are constructed and arranged with relation to each other as described, and operating in the manner and for the purpose set forth.

No. 22,239.—CLARK D. PAGE, of Rochester, N. Y.—*Improvement in Lime Kilns*.—Patent dated December 7, 1858.—The nature of this invention consists in so constructing the cupola and arranging the flues that a portion of the flame and hot gases arising from the combustion of the fuel will be deflected towards the centre, thus causing the limestone to become equally heated.

Claim.—The construction of the cupola with the sectional form shown in fig. 2, combined with the arrangement of the flues E E F F F, substantially as described.

No. 20,458.—CALEB WARNER, of Washington, D. C.—*Improvement in Machines for Working Marble*.—Patent dated June 1, 1858.—The object of this improvement is to overcome the difficulty of working or turning marble or other hard stone as a piece of wood is turned in a lathe, and consists of such an arrangement of mechanism that, in the production of articles with angular sides or corners, the arris may be formed and preserved.

Claim.—The arrangement of the saws $f f$, bevel gearing $a a^1$, and feed screws $b b$, when employed in combination with a lathe consisting of head-blocks $g g$, pulleys $h h$, substantially as described, for the purpose of facilitating the working of marble or other hard stone, in the manner and for the purpose set forth.

No. 21,622.—JAMES NORMAN and AARON R. MCLEAN, of West Dresden, N. Y.—*Improvement in Machines for Sawing Marble, Stone, &c.*—Patent dated September 28, 1858.—In using this machine the stone to be cut is placed securely in the carriage, and the motive power applied to the wheels, putting them in motion to drive the saw S ; the sand and water are then applied in the usual manner. To give direction to the cut of the saw, the operator turns the hand wheels K^1 and L^1 , by which any irregular or regular line may be sawed. As the line varies from a perpendicular, Q is used for rotating the stone to the desired position, which is in a perpendicular form.

Claim.—The carriage as constructed of the parts $E E^1$ and $F F^1$, with the means of holding and adjusting the same, and for holding and adjusting the stone thereon, in combination with the endless saw, when the several parts are constructed and arranged substantially in the manner and for the purpose set forth.

No. 19,194.—JAMES A. HAMER, of Reading, Pennsylvania.—*Improvement in Pug Mills.*—Patent dated January 26, 1858.—Motion is applied to resisting plungers by means of arms $P P$, which are furnished with rollers $R R$ in the end, secured to shaft K , which is supported on frames $B B$ by means of bearings $S S$; the resisting plungers are provided with brackets $T T$, which form pockets to receive the ends of vibrating beam U , supported on frame-work V , which forms guides for the plungers, and is secured to frame $B B$; the arms $P P$ on shaft K are set opposite each other, and, in revolving, catch on the ends of brackets $T T$, which withdraws one plunger and one end of the beam U , and forces the other into the hopper; while one is withdrawn, the thread of the screw passes the point Z , and the other plunger enters.

The inventor says: I am aware that screws of different kinds have been used for tempering and carrying clay into brick machines; I therefore do not claim the screws separately.

But I *claim* the arresting plungers or their equivalent, in combination with the screw, the whole being constructed and arranged for operation in the manner and for the purpose set forth.

No. 19,407.—ELIJAH BRADY, of New York, N. Y.—*Stone Dressing Machine.*—Patent dated February 23, 1858.—The machine is operated as follows: The stones Z are secured to the platforms K , which are raised to such a height as the size of the stones require by means of screws L ; the tool stocks E are brought in such a position that the tools are in line with the outer edges of the two stones, and the machine is started. By the action of the screws S the tools will be

made to travel over the surfaces ; one of the tools will work in one direction, while the other works in the other direction.

Claim.—The arrangement and combination, as shown and described, of the two adjustable platforms K with the self-adjusting tool stocks E, for the purposes specified.

No. 22,113.—A. C. ELLITHORPE and IVES SCOVILLE, of Chicago, Illinois.—*Improvement in Machines for Breaking Stones for Ballasting Railroads and Turnpikes.*—Patent dated November 23, 1858.—The nature of this invention consists in constructing the cracking cylinders A B of a solid central core or base C and of a sectional outer shell D, the sections of the solid shell being fastened together by tongues and grooves *a b*, and the outer surface of the shell dressed with stone-cracking teeth E, which are set in rows running parallel longitudinally, and diagonal transversely to the axis of the cylinder, and which are shaped similar to one-half of a pyramid, which is cut vertically through its centre in a line parallel with one of its sides, or so that the front or cracking sides *c* are flat, or at right angles to the axis of the cylinder, while their transverse and rear sides *d e f* are similar to the sides of the pyramid, with the exception that the rear sides *d* take the form of a quadrant of a circle as they rise to the apex or point of the teeth.

Claim.—The cylinders A B, constructed with a solid base C and sectional shell D, when the said shell is made in segments and dovetailed and secured together, and dressed with teeth shaped and set as described, and when the said cylinders are used for breaking stone for macadamizing or ballasting railroads, &c., substantially as set forth.

No. 21,539.—ELEAZER B. KNIGHT, of Malden, N. Y., assignor to Himself and NATHAN KELLOGG, of said Malden.—*Improvement in Stone-Holding Machines.*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says : I *claim*, first, a box or holder, detachable from its guiding or supporting frame, and provided with sets and means as recited for holding stones or other substances to be operated upon in being rubbed or ground, and which can be adjusted to plain or bevelled edges, and for angular pieces, as described.

Second. I claim the angular guides or standards, as arranged for keeping the box or holder in its proper position in relation to the rubbing bed.

Third. I also claim the adjustable rests or supports A for keeping the box or holder at any point desired, as set forth.

No. 20,542.—ELI W. BLAKE, of New Haven, Conn.—*Improvement in Machines for Crushing Stones.*—Patent dated June 15, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says : I *claim* the combination of the following features in the construction, arrangement, and movement of the jaws A B, to wit :

First. Making the acting faces of the jaws upright, or so nearly so that stones will descend by their own gravity between them.

Second. Making the acting faces of the jaws convergent in such manner that while the space between them at the top is sufficient to receive the stones that are to be broken, that at the bottom shall be only sufficient to allow the fragments to pass when broken to the required size.

Third. Giving a short vibratory movement to the movable jaw.

I disclaim the above three features severally, and limit my claim to their joint co-operation, as described, in a machine for breaking stones or other hard substances.

No. 21,742.—WILLIAM COOPER, of Mount Gilead, Ohio.—*Improvement in Machines for Dressing Stone*.—Patent dated October 12, 1858.—The operator sits upon the machine, and while he operates the picks with one hand, he can with the other move the slide bars E E¹ forward when necessary, thus making the picks to progress to unpicked portions of the stone. Furrows may be made with this machine, or the stone may be dressed level, and any number of picks may be used that the capacity of the machine will allow of, or all may be removed but one.

Claim.—The arrangement of the picks A A, screw *a a*, springs *c c*, and shaft D, with the adjustable carriage E, ratchet wheels *m n o*, and ratchet F, the same being constructed, combined, and operated in the manner and for the purpose specified.

No. 20,885.—JOHN H. LYON, of Baltimore, Md.—*Improvement in Machines for Drilling and Splitting Stone*.—Patent dated July 13, 1858.—The nature of this invention consists in a new method of drilling a slab of stone and afterwards drilling it into blocks for paving and other purposes.

In the engravings, A is the frame of the machine; B the space in which the slab is placed; C the drill-stock; D the drills; E the slug attached to the drills; F the ropes or chains for raising and lowering the drill-stock; G the pulleys over which the ropes F pass; H the windlass around which the ropes are wound; I the worm-shaft driving the wheels *a a*; and J the spring pawl working ratchet wheel K.

Claim.—The hammer stock M and hammers N, arranged and operated as described, in combination with the drills D and removable slugs E, for drilling and splitting blocks of stone; the whole being constructed and arranged for joint operation in the manner and for the purposes set forth.

No. 20,981.—HORACE L. ARNOLD, of Elkhorn, Wis.—*Improvement in Stone-Sawing Machines*.—Patent dated July 27, 1858.—This invention consists of a peculiar arrangement of means for giving a lateral feed movement to reciprocating saws while they are being operated, and also in the peculiar manner of arranging the saws in connexion with their frames, the whole being so arranged whereby stone or marble blocks may be sawn with either curved or taper sides, with

parallel sides, or sides of irregular form, such as are used for monuments, fence posts, &c.

The inventor says: I do not claim the employment or use of screws h h^1 for giving saws a lateral movement, for they have been previously used.

But I *claim* the particular means employed for operating the screws h h^1 to wit: the rack J and pinion a , gearing u^1 , rack shaft H, rack n^1 , and the wheel o^1 , pawl I, and pinion p^1 placed on the shaft F; the whole being arranged to operate as set forth.

I also claim, in combination with the above, the racks m^1 g^1 , attached respectively to the collar l^1 and shaft G, and used in connexion with the pinion h^2 and pattern K, for the purpose specified.

I further claim the plates j , provided with inclined planes q , and having rods k and slotted bars t attached, which bars are connected with adjustable arm c^1 , whereby the saws are tilted or slightly raised at the termination of each stroke of the frame, and the saws also inclined as occasion may require, substantially as described and for the purpose set forth.

XVI.—LEATHER, ETC.

No. 20,434.—ROBERT JANCOVINS, of Newark, N. J.—*Improved Self-adjusting and Vibrating Back-Band Strap*.—Patent dated June 1, 1858.—The nature of this invention consists in attaching the saddle to the shaft by means of the peculiar construction of the vibrating sector B, having a curved groove or slot F, through which is the pin D^1 , connected with the pointed back support D, and working on the centre bolt C, causing an easy movement of the back band strap on the saddle.

The inventor says: I do not claim broadly the joints, hinges, or chain links L.

But I *claim* the peculiar construction of the vibrating sector B, provided with the slot F, the pointed back support D, with the pin D^1 attached; the whole in connexion with the several joints, hinges, and link L, or their equivalents, for the object and purposes set forth and described in the specification.

No. 22,102.—ISAAC RICH, of Manchester, Conn., assignor to SAMUEL C. ARNOLD, of said Manchester.—*Improved Instrument for Trimming the Edges of Boot and Shoe Soles*.—Patent dated November 16, 1858.—The nature of this improvement consists in constructing a cutting instrument in such a manner as that a boot or shoe sole may be trimmed with more or less projection, true with the form of the boot or shoe, and will also avoid the liability of otherwise entering the upper leather.

Claim.—The described instrument for trimming the soles of boots and shoes, consisting of the handle A, guard B, knife C, and sliding gauge D.

No. 22,095.—DANIEL J. TAPLEY, of Danvers Centre, Mass.—*Improvement in Machine for Moulding Boot and Shoe Soles*.—Patent dated November 16, 1858.—The object of this invention is to produce a machine for moulding or shaping soles for shoes, by which a workman can conveniently and rapidly mould or shape his soles every day, and one at a time, so that they may always be in proper season to work; and at the same time a machine which shall be compact, simple, and cheap.

The inventor says: I do not claim pressing soles between a concave and convex former, in order to shape them to the last, as that is old; nor do I claim any one particular part of the machine independently of its combination.

But I *claim*, first, providing, substantially as described, the lower former B with a socket C to receive the upper end of the wooden standard D, and also with projecting ears *b b* to guide the rods F F and holes *e e* in the back flange, to admit screws for confining the machine to a bench or the side of a shop.

Second. The combination of the spring H, lever G, and connecting guide rod F F with the upper former A, substantially as set forth, and for the object specified.

No. 20,992.—JOHN DICK, of New York, N. Y.—*Improved Method of Cutting Boot Fronts*.—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that boot fronts have been made without crimping, by being made of more than one piece of leather or other material; and I do not therefore claim making a boot front which can be used without being crimped.

But I *claim* cutting a boot front out of a single piece of leather or other material to the form described, or to any other form substantially the same, whereby it can be used (in making the same into a boot) without undergoing the operation of crimping, as set forth.

No. 19,227.—LEONARD J. WORDEN, of Utica, N. Y., assignor to Himself and EDWIN L. SWARTWOUT, of said Utica.—*Improved Method of Securing Straps upon Boot Legs*.—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that metal plates have been used for fastenings in various ways in the construction of harness, carpet-bags, book-clasps, and the like, by rivet pins cast upon the plate, or by riveting on the plate by the use of separate rivets, and that boot-straps and leather belting have been fastened by riveting the parts together by the use of separate rivets. I do not, therefore, claim any such devices.

But I *claim* the fastening of straps upon boot-legs by the use of the toothed clasp A, as I have described it, formed of a simple flat piece of sheet metal, with the points or teeth by which it is fastened punched or projected from the plate by the use of a punch, die, or other equivalent means, which, being angular in their shape and pointed, are at once a substitute for the separate nail or rivet, and capable of being driven through the leather, and easily clenched on the opposite side.

No. 22,205.—BRADFORD STEVENS and LORENZO STEVENS, of Stoughton, Mass.—*Improvement in Crimping Boot Soles*.—Patent dated November 30, 1858.—A is a bifurcated block, having its top surface formed or curved to the form to which a boot sole is to be bent. The prongs *U* of the fork are hollow, as seen at *c c*, to constitute a seat for the heel part of the sole and the upper leather of the boot when the sole is applied to the block.

Each of the holders consists of a jaw *d*, furnished with a notched shank *e*, which enters and slides longitudinally on a tabular supporter *f*, which at its lower end is hinged to the block.

Claim.—The said article or boot-sole crimper, made of the bifurcated and grooved block, or its equivalent, and the holders applied thereto, substantially in manner and to operate as specified.

No. 19,912.—PEREZ C. CLAPP, of Stoughton, Mass.—*Machine for Turning the Edges of Circular Boot Tops*.—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The arrangement of the boot board *J*, the movable frame *X Y*, the slide *W*, and the boot form *Z*, for turning the edges of the circular and other shaped boot tops, in the manner set forth.

No. 19,508.—REUBEN L. LEWIS, of Milford, Mass.—*Improvement in Boot Trees*.—Patent dated March 2, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Combining the backs with the axial stretching rod by means of the inclined guides *F* and cross-heads *B*, or other equivalent means, so that the backs can be readily changed in the manner and for the purposes set forth.

No. 20,185.—WILLIAM W. WILLMOTT, of Boston, Mass., assignor to Himself and HENRY F. GARDNER, of said Boston.—*Improvement in Boot Trees*.—Patent dated May 4, 1858.—By connecting the lower ends or other proper parts of the two portions *A B* by a staple and hook, they are prevented from falling asunder as well as from moving out of place endwise, while the stretching mechanism may be in operation. The mode of supporting the lapping parts *L M* is very advantageous, for either of the parts *A B* may be moved with less friction than would be the case were the lapping plate to be fastened to it.

The inventor says: I *claim*, in the application of the screws the rod and toggles (or mechanical equivalents) to the front and back portions *A B* of the leg of a boot tree, the arrangement of the two sets of toggles as shown in the drawings, and the application thereto of the screw rod *H* in such manner that it may be free to move longitudinally during its rotary motions on its axis, the same being for the purpose as specified.

I also claim combining the regulator or latching mechanism *N e e* (or their equivalent) with the back and front parts *A B* of the leg portion of the boot tree and the separating mechanism applied thereto and made to operate therewith, substantially as described.

No. 20,914.—A. J. WISNER, of Homer, N. Y.—*Improvement in Boot Trees*.—Patent dated July 13, 1858.—The object of this invention

is to construct the boot tree so that either the upper or lower portion of the same may be forced to any desired position and kept there as long as necessary and without reference to the movement of the other parts; and also to provide the means of preventing the stretching of the boot from removing the crimp.

Claim.—The combination of shaft G, bevel wheels W W¹, screw H, nut I, screw F, and yoke *b*, with the thin shaft E and hinged sole D; the whole constructed and arranged for joint operation, substantially as and for the purpose set forth.

No. 21,424.—JACOB JENKINS, of Charlestown, Mass.—*Improved Apparatus for Applying Soles to Boots and Shoes.*—Patent dated September 7, 1858.—In operating this machine, a shoe on a last, and having a cemented sole placed against the under side of the insole, should be arranged on the top surface of the elastic bed D and directly over the sole-adjusting cavity. This being accomplished, the screw F should be turned around so as to force the bearer E down upon the shoe and the last, and cause them to be firmly pressed against the elastic bed D and into the adjusting cavity C, the elastic bed at the same time being crowded into the adjusting cavity and down upon the horizontal arms of the clamps *h h*. By continuing to depress the shoe and last, the clamps will be so caused to act as to depress the sole to its proper position on the insole, such adjustment having partially taken place by the action of the sole-adjusting cavity C.

The inventor says: I *claim* the combination of the elastic bed D and the sole-adjusting cavity or space C, arranged in a press, and so as to operate together, substantially as specified.

I also claim constructing such sole-adjusting cavity C, with adjustable sides *a a*, or adjustable ends *b b*, or both its sides and ends made adjustable, substantially as set forth.

I also claim the combination of the lever clamps *h h* with the adjusting cavity C and the elastic bed, and so as to operate therewith, substantially as described.

I also claim the combination and arrangement of the tank B with the elastic bed D and the sole-adjusting cavity C.

No. 21,564.—JACOB JENKINS, of Charlestown, Mass.—*Improved Apparatus for Applying Soles to Boots and Shoes.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim an elastic bed and a sole-adjusting cavity or space, nor do I claim constructing such sole-adjusting cavity with adjusting sides or jaws, as such have been the subjects of claim in another application for a patent which I have made.

But I *claim* the application of the rocker-jaws or jaw-holders to the elastic bed, whereby the latter, when forced downward, is made to draw the jaws towards one another in manner as explained.

I also claim the combination of the elastic cushion or sole pressure with the elastic bed A, and a mechanism for forcing the shoe down upon the said bed.

I also claim the combination of the rocker-bearer H and its screws

I I with the holding lever F or its equivalent, and to operate therewith, substantially as specified.

I also claim the contrivance shown in figs. 7, 8, and 9, and as above described, to be used in manner and for the purpose specified.

No. 20,960.—VARANES SNELL, of North Bridgewater, Mass.—*Improved Heel-Shavers for Boots and Shoes*.—Patent dated July 20, 1858.—This improvement consists in combining with a knife rigidly secured to the stock or handles *a* an adjustable guard *c* that can be removed from the stock at pleasure, thereby exposing the edge of the knife *b*, and permitting it to be applied to the grinder and sharpened without removing it from the handles.

Claim.—Combining with the stock and the stationary knife the adjustable guard, so arranged as to be susceptible of being removed from the said stock, as set forth.

No. 22,328.—SAMUEL FLINT and ROBERT S. ROGERS, of Lynn, Massachusetts, assignors to WILLIAM F. JOHNSON, of said Lynn.—*Improvement in Heels for Boots and Shoes*.—Patent dated December 16, 1858.—The nature of this invention consists in a combination of a wooden body or heel, and an elastic or India-rubber guard applied within the heel, and so as to make a part thereof.

The inventor says: I *claim* an improved manufacture of heel made of wood and India-rubber combined, and arranged together substantially as set forth.

No. 20,936.—JOHN CRAWSHAW, of Rochester, New York.—*Improvement in Machines for Cutting out the Soles of Boots and Shoes*.—Patent dated July 20, 1858.—This invention consists in a certain mode of applying and operating a pattern and a cutter, whereby a cheap, easy working, and easily managed machine is obtained.

Claim.—Combining the cutter and the pattern with each other and with the wheel D, by means of the pattern gear *m*, pinion *o*, groove *n*, tongue *r*, cutter carriage *c d e*, slot *f*, and the cutter stock E, or their equivalents; the whole being arranged to operate substantially as specified.

No. 21,593.—B. F. STURTEVANT, of Boston, Massachusetts, assignor to Himself and ELMER TOWNSEND, of said Boston.—*Improvement in Machine for Pegging Boots and Shoes*.—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, causing the hammer to descend each time a peg is driven a short distance below the stationary rest, for the purpose of compressing the soles, as set forth, and of relieving the shoe from contact with the rest, that it may be fed forward, as described.

Second. The arrangement of the hammer X^2 and stationary rest H, constructed and operating as described, in connexion with the weighted lever, as set forth.

Third. I claim the peculiar holder *p* for the blank, the same having several knife-edges lying in the direction of the feed, operating in the

manner set forth, to hold the last peg of the blank whilst it is being separated from the one preceding it.

Fourth. And in combination with the holder p , I claim the pawl A^2 , operating upon several points of the blanks, in the manner set forth, for the purpose specified.

Fifth. I claim sawing off the pegs in the machine by a saw operating into and through the trough through which the pegs are fed.

Sixth. I claim the spring p^2 in the end of the trough, operating as described, for the purpose specified.

No. 19,611.—EDWARD S. SNELL, of North Bridgewater, Massachusetts, assignor to Himself and FRANCIS B. WASHBURN, of said North Bridgewater.—*Machine for Pricking and Cutting Heels of Boots and Shoes*.—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* the arrangement of devices described, for pricking the holes in boot and shoe heels, the same consisting of the block g furnished with a series of awls h , the plate k , and a pattern or bed piece n , upon which the heel is placed, the whole operated substantially as set forth.

In connexion with the above, I also claim the cutting apparatus, consisting of a knife so arranged upon a sliding carriage as to keep up to the pattern, and furnished with a wheel that travels on the pattern in front of the knife, to adapt the knife to short curves in heels, whereby a heel is formed and pricked accurately, as set forth.

No. 19,040.—GEORGE A. MITCHELL, of Turner, Maine.—*Metal Tips for Toes of Boots and Shoes*.—Patent dated January 5, 1858.—The plate as applied to the shoe may be seen in the engravings. B represents the plate when set.

The inventor says: I am aware that in George S. McWalters's rejected application for a patent (1847) it was proposed to cover the ends of shoe lasts with metallic tips, and therefore I disclaim the application of such tips to lasts.

I *claim* a boot or shoe the toe part of which is provided with a metallic tip A , as described.

No. 19,305.—ABRAM T. MERWIN, of New Haven, Connecticut.—*Improved Method of Attaching India-Rubber Soles to Boots and Shoes*.—Patent dated February 9, 1858.—The nature of this invention consists in so connecting, by means of a binder, an outer sole of India-rubber, gutta-percha, or other like material, with the side or edge of an inner sole, and also with the body or upper of the shoe, as that an entire surface of India-rubber or like material shall be presented on the part most exposed to wear.

Claim.—Securing a sole of India-rubber, gutta-percha, or other like material, to a shoe by means of a binder, as shown and described.

No. 21,334.—GEORGE W. GRISWOLD, of Carbondale, Pennsylvania.—*Improved Method of Stretching Boots and Shoes*.—Patent dated August

31, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Stretching boots or shoes from the outside, and at any part or point, without stretching other parts or points, by means of a skeleton last on the inside and a pressing apparatus, substantially such as that described, on the outside of said shoe or boot.

No. 20,510.—JAMES H. ROOME, of New York, N. Y.—*Improvement in Revolving Heels of Boots and Shoes.*—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The combination of the slotted or perforated slide F, bent at its forward end as described, with the hub bed shank C and notched rim plate H, arranged and operating substantially in the manner set forth.

No. 21,760.—WILLIAM JOHNSON, of Hampstead, New Hampshire.—*Improved Tool for Chamfering Soles for Boots and Shoes.*—Patent dated October 12, 1858.—This invention has reference to a tool composed of a knife-holder A, a gauge B, a rest C, a spring-presser D, and a handle E, combined and arranged together, the knife-holder being for the purpose of receiving and carrying a shoemaker's knife F, which is placed in it with its cutting edge against the edge gauge B.

Claim.—The improved chamfering tool as constructed, with means not only of adjusting the angular position of the knife with respect to the sole rest, but the distance of the said edge at the gauge from the rest, as described.

No. 22,248.—GEORGE C. TODD, of Lynn, Massachusetts.—*Improvement in Edge Keys for Boots.*—Patent dated December 7, 1858.—This invention consists in certain improvements in the construction of the edge key for which letters patent were granted to the above named inventor on the 25th of November, 1856, by which the objections to said key are remedied and a more perfect tool is produced.

The side of the shank at *a* is slightly rounded as well as bevelled. The edge of the disk C is grooved at *f*, the face or shoulder of the groove forming such an angle with the inclined surface or guard *a* of the shank B as will give the required bevel to the edge of the sole or shoe.

Claim.—The shank B, in combination with the disk C, so attached to the side of it that the angle of inclination of the disk to the shank may be varied as required, substantially as set forth.

No. 19,269.—THOMAS C. WALES, of Dorchester, Massachusetts.—*Improvement in Water-Proof Gaiter Shoes and Boots.*—Patent dated February 2, 1858.—The body of the shoe, or foxing and sole, as it may be termed, does not extend entirely between the outer and inner layers of cloth, but is only connected to the inner layer or lining and to the edges of the layer, so as to permit nearly the whole outer layer to be cemented directly to the inner layer. The outer layer of cloth may be broadcloth or any fancy material, and may be of a drab or any other color, while the inner layer or lining may be of napped cloth

having a furzy or raised nap on its inner surface. The furzy nap, while it keeps the foot warm, furnishes ventilation of the shoe, or permits the moisture or perspiration of the foot to escape between its fibres.

The inventor says: I do not claim the vulcanizing process; nor do I claim making articles of cloth cemented together with rubber cement and afterwards vulcanizing them; nor do I claim making shoes partly of leather and partly of cloth, the same being made by connecting the leather and cloth together by water-proof caoutchouc cement; as such, when made partly of leather, cannot be vulcanized, owing to the fact that the great heat required in the vulcanizing process injures or destroys the leather.

I *claim* a new or improved manufacture, or water-proof vulcanized rubber and cloth gaiter shoe, made in manner and with its external layer of cloth and its lining of cloth arranged together, and with respect to the remainder or rubber parts or foxing, substantially as specified.

No. 21,889.—JOHN M. LANIER, of Eufaula Alabama.—*Improvement in Bridles to prevent Horses from Kicking or Running away*.—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The employment of two bits so arranged with two sets of reins that one bit will operate upon the lower jaw while the other operates upon the roof of the mouth and upper jaw, the same being combined and operated in the manner and for the purpose specified.

No. 22,352.—JOHN CUMBERLAND, of Mobile, Alabama, and JAMES R. MCCLINTOCK, of New York, N. Y.—*Improvement in Buckles*.—Patent dated December 21, 1858.—The nature of this invention consists in making the buckle in two parts, one of which slides upon the face of the other, attached to each other, by means of grooves or pins, in such a manner as to allow of the requisite movement of the sliding part. The sliding part is made to bite upon the strap or article to be held, by means of the pressure caused by tightening the buckle.

Claim.—The buckle or clasp composed of the parts A and B or their equivalents, substantially as described and for the purposes described.

No. 19,169.—G. W. N. YOST, of Cincinnati, Ohio.—*Improvement in Combined Horse Collar and Hames*—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The adjusting breast yoke E, in combination with the hame bows A A, for the purpose of making the hames press directly backward and upon the fleshy portions of the shoulders, in order to enable the horse to draw with greater ease, and also for more accurately fitting different horses, and thus preventing the chafing, galling, and stiffening of the shoulders, substantially as set forth.

No. 19,846.—ELANSON D. GOULD, of Darien, New York.—*Improvement in Horse-Collar Blocks*.—Patent dated April 6, 1858.—The thick part of the block which forms the rear of the collar is shown at A,

with a score B cut from its narrowest end into about the centre. There is a groove in each side of the score B for the tongues C C of the bar D to traverse in, which bar D is fitted to traverse in the score B, and is made, as shown in the engraving, with a semi-circular head to form the top of the collar.

The inventor says: I do not claim a collar block with a base to mould the rear or belly of the collar.

But I *claim* a collar block so constructed as to shape the interior of the front of the collar, and the interior of the rear of the collar next to the front, and the interior only, and stretch them at the same time, and hold them firmly in the form required, while the rear or belly of the collar is manipulated by hand, and worked and beat into the form required with a mallet, and other suitable tools, substantially as described.

No. 21,301.—B. W. McCURE and GEORGE MARSH, of Pike Hollow, New York, assignors to B. W. McCURE and J. H. WINDSOR, of said Pike Hollow.—*Improvement in Horse Collar Blocks*.—Patent dated August 24, 1858.—The nature of this invention consists in the peculiar arrangement of the mould-block, the rim-setter, the hame-cord, and the stretcher.

Claim.—The peculiar arrangement of the mould-block B and rim-setter C, with the cord *a* and stretcher D, when the same are constructed, operated, and combined in the manner set forth and for the purposes described.

No. 21,821.—C. K. CUCKLER, of Columbus, Ohio.—*Improvement in Horse Collars*.—Patent dated October 19, 1858.—The nature of this invention consists in combining and arranging in a collar the breast and side plates in such a manner that the collar may be adjusted, laterally or longitudinally, to suit the size of the horses neck.

Claim.—The combination of the breast-plate E, springs D D, side plates *a a*, and springs *c c*, when the whole are arranged, constructed, and operated in the manner specified and for the purpose set forth.

No. 20,816.—LEVI PLONK, of Newton, North Carolina.—*Improvement in Machines for Stuffing Horse Collars*.—Patent dated July 6, 1858.—H represents two rails which, at their upper ends, are secured to the cross-piece I; the rollers *b* of the rails H rest on the frame A, while the cross-piece I rests against the upper end of the feed-rod E. The parts H and I thus form a frame or gate which rests on the inclined frame-work of the machine. *q* and *r* represent two flexible pieces of metal which are fastened respectively to the carved brace S, and the other to the forward end of the piece *g*.

The inventor says: I *claim* the straw conveyers *d*, in combination with the loose sliding frame H I, for the purpose of carrying the straw to the feed-rod, substantially in the manner set forth.

I also claim the elastic blades *q r*, in combination with the guards *t u*, for the purpose of guiding the straw to the funnel, substantially in the manner described.

No. 21,674.—SAMUEL C. HAWKINS, of Patchogue, New York.—*Improvement in Halters and Bridles for Horses*.—Patent dated October 5, 1858.—This invention consists in having a flanch cast or formed on the ring of the halter so that the straps may be riveted and permanently secured thereto and prevented from slipping on the ring, the halter or bridle being thereby rendered more durable than those constructed in the ordinary way.

Claim.—Forming the ring A with a flanch α , and securing the straps B to the ring by rivets b which pass through the straps and flanch, substantially as and for the purpose specified.

No. 22,096.—JOHN TINGLEY, of Potter county, Pennsylvania.—*Hame Fastener*.—Patent dated November 16, 1858.—The inventor, in describing his invention, says: I construct two hooks, each having an acute angular catch, as seen at letters A and E. There is also a projection formed on each of the hooks, as seen at B and C; the former has a notch in it, and the latter is shaped to fit the notch when they come together, as seen at B and C. D is a steel spring inlaid and fastened to the handle of plate F, and is so placed that it presses B and C together, causing them to lock and hold the fastener in a closed position. The face-plate F is provided with two perpendicular posts, upon which the shank of each hook is placed by means of the hole, as seen at N and O.

The inventor says: I do not claim, broadly, a metallic hame fastener, for I know there has been at least one patent granted for a metallic fastener.

I *claim* the combination of two hooks coupled together by a semi-revolving force plate, and the spring D, figure 4, the catch B, and the projection C, when made and combined substantially as set forth and for the purpose described.

No. 20,278.—ED. D. LOCKWOOD, of Churchville, New York.—*Improved Hame Tug Fastener*.—Patent dated May 18, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim, broadly, the fastening of hame tugs by means of revolving studs or buttons.

But what I *claim* is connecting the hame tug to the tongue t by means of a joint c , so that any strain upon the tug will tend to turn and lock the stud or pin P, thus rendering the contrivance self-fastening, substantially as and for the purposes set forth.

No. 20,246.—JOSEPH E. BALL, of Newark N. J.—*Improved Fastenings for Hame Tugs*.—Patent dated May 18, 1858.—In figure 2 C is the draught plate; D is a small loop or keeper; E is a large loop with a groove; F is a key which is provided with two projections i i^1 on its under side; projection i is a little shorter than i^1 , so that i^1 may pass through the trace in order to strike against the projection upon the upper surface of the plate C when the key F is drawn home or in the position in figs. 1 and 2. The loop E has a stop K which secures the small end of the dovetailed key F, at the same time i^1 comes in contact with the projection on the upper surface of the draught plate C.

Claim.—The combination of the loop E, the dovetailed slide or key F, the projections *i* and *i*¹, and plate C, arranged and operated in the manner and for the purpose substantially as shown and described.

No. 21,267.—FREEDOM MONROE, of Romeo, Mich.—*Improvement in Harnesses.*—Patent dated August 24, 1858.—This invention consists (in such arrangement of the coupling tree) of the novel combination therewith of bow whiffletrees pivoted to said coupling tree, and passing, but perfectly free from contact, round the breasts and along the sides of either horse, said bows being made with rigid arms or stiff back extensions, with appliances for hitching on to the ordinary or any other suitable plough harness.

Claim.—The combination of the rigid bow whiffletrees A A with the front coupling bar or tree B, connected by swivel joints *c c*, said bows having hooks or other appliances for connecting the ends at F F with an ordinary plough harness, constructed and operating in connexion with the central draught bar or chain, in the manner and for the purposes specified.

No. 22,383.—ORIN B. SMITH, of Monticello, N. Y.—*Improvement in Harness Buckles.*—Patent dated December 21, 1858.—The nature of this invention consists in having a bow attached to the end of one strap and a lever secured to the end of the bow opposite to where the end of the strap is attached. The other strap passes through the bow, and a tongue attached to the end of the lever fits in holes in said strap.

Claim.—The combination of the lever C, operating as described, with the bow B¹ for the purpose of making a harness or other buckle, and to which may be attached straps A and B, as set forth.

No. 21,989.—ADOLPH STEMPEL, of Oquaroka, Ill.—*Machine for Creasing and Blacking Leather for Harness.*—Patent dated November 2, 1858.—The nature of this invention consists in the use of creasing and embossing rollers, and a pressure roller, combined and arranged with two color fountains provided with felt distributors, the whole being arranged for creasing, embossing, and coloring the edges of leather straps.

Claim.—The pressure roller F and the creasing and embossing rollers *i*, in combination with the color fountains K L and felt rolls M M, the whole being arranged to operate as and for the purpose set forth.

No. 20,588.—ROBERT M. SELLECK, of New York, N. Y.—*Improvement in the Construction of Harness Pads.*—Patent dated June 15, 1858.—This invention relates to first class coach pads made upon iron plates enclosed in the housing by being stitched around the edge. A full description would require too much space to be given here.

The inventor says: I *claim*, first, the cast-iron frame, having the depressions E E, in combination with the recesses O O cast on each side, for the side straps D to fit in, substantially as and for the purposes described.

Second. The under plates or clamps to secure the pads, provided

with hooks F F fitting into the depressions and recesses S S on the frame, the ends of the pads being secured by screws, substantially as and for the purposes set forth.

No. 19,048.—HENRY SANDERS, of Utica, New York.—*Improvement in Harness Saddles*.—Patent dated January 5, 1858.—In the plates A are formed holes *b*, having screw threads cut in them, into which the screw end of the turrets *c* and pad-screws *d* take, by which the top plates A are firmly secured to the lower plates B, between which the edges of the leather that forms the pad are secured, there being flanges *e* and *f* formed around the edges of both plates, (A and B,) whereby a firm hold is given to them on the leather.

Claim.—The flanged plates A and B, when constructed and arranged in relation to each other, in the manner as and for the purposes set forth.

No. 20,463.—F. P. AMBLER, jr., of Trumbull, Connecticut, assignor to F. P. AMBLER & SONS, of Bridgeport, Connecticut.—*Improvement in the Construction of Wooden Saddle-Trees for Harness Saddles*.—Patent dated June 1, 1858.—The seat B projects some distance above the upper surface of the sides A A of the tree, so that its form is clearly defined and the seat may be covered with the greatest facility. The upper ends of the "jockeys" C may be fitted within the recess *a*.

The inventor says: I do not claim broadly the employment or use of a raised seat of harness saddle-trees irrespective of the material used and the construction of the whole viewed as a new and useful article of manufacture.

But I *claim* a saddle-tree having a separate or independent raised seat of wood, made substantially as shown and described.

No. 22,290.—B. B. HOTCHKISS, of Sharon, Connecticut.—*Improvement in Harness Snaps*.—Patent dated December 14, 1858.—The nature of this invention consists in securing the spring to the hook by the application of a collar, with a projection extending in the opposite direction from the spring, and which collar is powerfully compressed and the projection thereon bent down by suitable means after the parts are all in place, so that the metal is caused to embrace the spring on every side and the projection is made to extend over the end of the spring and enter the angle of the wire, thus rendering it impossible for the spring to work backward or the collar to work forward.

Claim.—Securing the spring B to the snap-hook A by means of a collar C C², so constructed and applied as to press against the broad end as well as the faces of the spring, substantially in the manner and for the purposes set forth.

No. 19,078.—THOMAS DEMPSEY, of Newark, N. J.—*Improvement in Harness Trees*.—Patent dated January 12, 1858.—This invention is entirely adapted to light carriages or coach harness trees, and not to saddles of any kind.

The inventor says: I am aware of the application of springs of

various kinds having been applied to riding saddles and harness saddles, and that pads have been made upon plates that were hinged to the terret, nut, and other parts of the tree, and that these plates have been held to their places by means of the terret and nut. Spiral springs have been used between the pad plate and nut, for the purpose of easing the horse. I disclaim either of the above applications.

Neither do I claim to be the inventor of the individual parts of the described harness trees.

But I *claim* the plates $B B^1$, tongues d and d^1 , in combination with the nuts k and tree A , in such a manner that I relieve the horse's back, and not his side, by means substantially as described and shown in the drawings.

No. 19,371.—F. B. KUEHNHOLD and D. B. STURGES, of Newark, N. J.—*Improvement in Harness Trees*.—Patent dated February 16, 1858.— a represents the tree, with the inside hook $b b$ on the end, which forms two-thirds of the joint for the reception of the cross bar d on the pad e . The grooved nut f completes the joint, and is held together by the screw of the turret g .

Claim.—The hook b , in combination with the grooved nut f and cross bar d , to form the concealed joint, in the manner and for the purpose specified.

No. 20,222.—WILLIAM STRAW and RANSOM H. ARMSTRONG, of Hudson, Mich.—*Improved Harness Tug Buckle*.—Patent dated May 11, 1858.—There is a plate B attached by a sliding joint to a frame A , the plate being provided with one or more tongues $i i$, and so arranged in connexion with a catch that the tug C can be readily adjusted so as to be of greater or less length as desired, and, at the same time, the connexion rendered more secure than in the usual way.

Claim.—The plate B , provided with one or more tongues i , attached to the frame A at one end by means of a sliding joint, and attached at the opposite end to the frame by means of a catch h and dove-tail connexion formed by the groove f in the cross piece g of the frame, and the bevelled front end e of plate B , the whole being arranged as and for the purpose set forth.

No. 20,997.—JOHN H. FEROW, of Hinsdale, N. Y.—*Improved Harness Tug Buckle*.—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The double tongue cog wheel a , the traversing bars b , arranged and operating in the body or box in a manner so as to adjust itself in lengthening out and taking up the traces, as described.

No. 20,861.—JOHN R. BUMGARNER and LYMAN WHITE, of Davenport, Iowa.—*Machines for Dressing Hides and Leather*.—Patent dated July 13, 1858.—This machine is designed for unhairing, fleshing, scraping, dressing, and finishing hides, these several operations being performed successively. The hides are clamped upon a table $B D$ which has a gradual longitudinal movement, and are continuously operated by the unhairing, fleshing, scraping, and finishing frames,

which reciprocate across it in a direction at right angles to the movement of the table.

The inventors say: We *claim*, first, the combination, by means substantially as specified, of two carriages B D moving at right angles to each other, one having an intermittent longitudinal motion, and serving to feed the hides or skins to the action of the dressing frames, and the other D having a transverse reciprocating motion, and serving to carry and move the dressing frames across the hides or skins, as set forth.

Second. The peculiar manner of constructing the intermittent carriage B in sections, and with long and short clamps *c c*, whereby hides or skins of different sizes can be clamped and distended on the same, substantially as and for the purposes set forth.

Third. The automatic device G specified for clearing the knives *x x*, just after the completion of their movement from one edge of the hide or skin to the other, of all matter which may have accumulated on them and which would be likely to clog their action, as set forth.

Fourth. The arrangements of the standards *q q q q*, set screws *r r r r*, levers *s s s s*, cords *t t*, and windlass shaft *u*, substantially as and for the purposes set forth.

Fifth. The combination of the windlass shaft *u* with the dressing frame carriage by means of the ratchet movement S T and the projection U U¹, substantially as and for the purposes set forth.

No. 20,228.—SIDNEY S. TURNER, of Westborough, Mass.—*Improvement in Lasts*.—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—A last made of wood, and provided with metallic edge guards *a a*, and with grooves *b b*, arranged along and against the inner sides of such edge guards, and for the purpose of receiving strips of wood *c c* or other suitable material for the points of the pegs to enter while the last is in use, or a shoe thereon is being pegged, as described.

No. 20,393.—DAVID PHILBRICK, of Manchester, N. H., assignor to Himself and ELMER TOWNSEND, of Boston, Mass.—*Improved Rotary Last Holder*.—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim a cylindrical journal and a circumscribing socket held together, not only by a grove running around the journal, but a pin or screw extending from the socket into the grove.

Nor do I claim attaching the radial arm to a revolving plate held to the circular face of a support or standard by a clamp.

But what I *claim* is my improved support piece of the radial arm, viz: as made of a standard and plate K, recessed as specified, and a circular plate I formed to enter the recess of the plate K, and to make with such a dove-tailed groove or its equivalent for receiving the head of the clamp screw L, the two plates being confined together by a screw and nut, constructed and operating as and for the purpose set forth.

I also claim the improved last holder, hinge, and clamp G, as made essentially as above described, viz: with its clamping and hinge pin B constructed with a head to bear against one end of the male part of the hinge, and to turn and be supported in one of the prongs of the fork of the hinge, as explained.

No. 21,721.—WILLIAM KEMBLE HALL, of West Hoboken, N. J., assignor to AMOS BROADNAX, of St. Louis, Mo.—*Improvements in Artificial Leather*.—Patent dated October 5, 1858.—The nature of this invention consists in combining the chemical constituents of leather, procurable at a comparatively cheap rate, to form a substance resembling leather, and applicable to the manufacture of boots, shoes, harness, trunks, &c. The gelatine and fatty matters of the skin or hide are represented or replaced by glue and grease, and the tannic acid and mucilaginous matters of the tanned leather by catechu or terra-japonica. To accomplish their combination with water, as the cheapest possible solvent, the fatty portion of the composition is used in the modified condition of soap, which occasions its solubility in water.

Claim.—The combination of the chemical constituents of leather, or their equivalents, substantially as described, for the purpose of forming a substitute for leather.

No. 19,583.—JOHN ROSE, of Newark, N. J.—*Improvement in Enamelling Leather*.—Patent dated March 9, 1858.—The leather is first stretched uniformly. There is then applied a mixture of aqua ammonia and warm water, about one part aqua ammonia to five parts water, rubbed on with a soft brush. The surface of the leather is then rubbed over with a brush dipped in the common iron liquor of tanners. When the leather is dry, there is a coating applied of a mixture of dissolved India-rubber, lampblack, and a little common salt; the leather is left about six hours to dry in a temperature of from 50° to 70° Far. Then the coated surface of the leather is sprinkled with water slightly salted, and afterwards is rubbed smooth with pumice stone. There are then applied two more coats of the rubber mixture in the same manner. When the third coating is dry and rubbed smooth, there is applied with a camels hair pencil, a mixture of two parts Canada balsam to three parts spirits turpentine, with lampblack or other coloring matter. This also dries at the same temperature as above.

The inventor says: I am aware that carbonate of ammonia and sea-salt have been mixed with India-rubber, but in a manner and with results widely different from my invention; such use of these substances I do not claim.

Neither do I claim the invention of Canada balsam varnish.

But I *claim* the process of enamelling leather, the whole operation being substantially as described and for the purpose specified and set forth.

No. 20,093.—CHARLES E. ROBINSON and L. D. SANBORN, of Concord, N. H.—*Improvement in Apparatus for Raising Leather from Vats*.—

Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim the crab machine wholly as our invention.

We *claim* the manner of taking leather out of tan vats by using hooks, as aforesaid, on a movable frame with copper rods, to be placed in the bottom of each vat before the leather is placed therein, or any way similar to the same, by which all of the leather and bark can be taken out at one time.

No. 21,114.—NATHAN BURK, of Fulton, N. Y.—*Improvement in Machines for Rolling Leather into Bales*.—Patent dated August 10, 1858.—The operation of this machine is as follows: The ends of the hides are passed over and between the rods or shafts *c e*, and the crank *b* is turned, which, through the pinion *a* and gear-wheel *C*, rotates said rods on shafts, and they, clamping the ends of the hides between them, wind them around themselves into a bale or bundle. The spring *G* under the table forces the roller *h* and the hides drawn over it hard up against the bale or bundle, and thus compresses it into a very small bundle.

Claim.—In combination with the winding and clamping-shafts, the spring-table, with its friction-roller, stops, and string-guides, arranged and operating together in the manner and for the purpose set forth.

No. 22,108.—HENRY E. CHAPMAN, of Albany, N. Y.—*Improvement in Machine for Splitting Leather*.—Patent dated November 23, 1858.—*C* is a circular knife of any required diameter, made of a dishing form, and placed with its convex side uppermost; *D* is a sliding bed or table, over which the cut is made, and which also carries the folding apparatus; *d d* are racks attached to the table *D* for the purpose of moving it in and out of gear; *d¹ d¹* are guides for the racks; *G G* are a series of springs for holding the leather to the table, and which are split to allow them to pass over any unequal thickness of the leather; the edge of these springs are made to conform to the circumference of the knife so as to keep the leather down to the table close up to the cutting edge of the knife.

Claim.—The arrangement of the dished circular knife *C*, the series of split springs *G G G*, and the sliding bed *D*, in their relation to each other, as described.

No. 20,911.—JOHN B. WENTWORTH, of Lynn, Mass.—*Improved Leather Shaving Knife*.—Patent dated July 13, 1858.—*C C* is the stock made in two parts. These halves are made of steel and are bevelled from the line *x* to *y*; the part between *x* and *w* being parallel with the inner side. The halves of the stock are held together and confine the blade *D* between them by means of seven screws which pass through the half *c c* to *c¹ c¹*; two of said screws *f f* passing through the shanks, and five *e e e e e* through the unbevelled part of the stock.

Claim.—The described leather shaving knife, consisting of a stock *C C¹*, with a bevel only on one edge, extending beyond the centre

from Y to Z, and provided with screws *e*, combined with a blade D, having slots *d*, operating as and for the purpose specified.

No. 20,098.—H. LEE SULTZBACK, of Marietta, Pa.—*Improved Leather Slicker*.—Patent dated April 27, 1858.—A represents a knob in the centre of the handle of the adjustable slicker, which, by being pressed upon, slides the bolt B off the neck C, the latter being hidden in fig. 1. The pressure on the knob relieves the blade D, and thus enables it to be adjusted in three different positions, in which curriers are required to use it. The pressure being removed from the knob, the force of the spiral spring holds the blade firmly in either of the three positions.

Claim.—The arrangement of the bolt B with the blade D, operated by the knob A and spring, or its equivalent, in the manner and for the purpose specified.

No. 21,937.—JAMES BRIDGER, of Richland, Iowa.—*Tool for Chamfering Leather Straps*.—Patent dated November 2, 1858.—The nature of this invention consists in a groove in a block provided with chamfering and scoring-knives so arranged as to chamfer and score, or channel the leather straps as they are drawn through the groove in the block.

Claim.—The tool described for chamfering and channelling leather straps, as described.

No. 20,821.—CHARLES L. RUSSELL, of Derby, Conn.—*Machine for Leathering Tacks*.—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* one or more separators 5 6 A, leaving a cavity in their ends, or an equivalent therefor, which shall grasp the head or body of the tack, or both, substantially as and for the purposes herein described.

Second. The fingers W W¹ arranged in the relation shown to the tube or guide P, and working alternately, so that one serves as a stop to the tack and the other as a discharger thereof, in such a manner as to insure the dropping of the tack into the tube or guide P with unerring certainty at the precise time and place necessary, substantially as and for the purposes set forth.

Third. The fork 5, or its equivalent, when working through or across a tube near its top as shown, for the purpose of insuring the dropping of the tacks perpendicularly into the tube P, substantially as described.

Fourth. The guide or conducting tube P P¹, having inclined or horizontal passages running into each other in combination with the driving punch O, cutting punch L N, die M M, race *x*, and feed motion I J, substantially as and for the purposes set forth.

Fifth. The self-adjusting grooved rest or guide *v* for receiving and supporting the point of the tack, when arranged so that the tack shall be kept on the guide by its own weight, substantially as and for the purpose herein specified.

Sixth. Feeding leather or other material to the machine in the op-

eration of leathering tacks, by each succeeding tack itself, which is driven into or through the material used for forming the heads or disks, and acts as a stop to a feed motion whereby to effect the movement of the material to a position in front of the cutting punch, substantially as described.

No. 20,819.—JESSE REED, of Marshfield, Mass.—*Machine for Leathering Tacks*.—Patent dated July 6, 1858.—In operating this machine, as each tack drops down the tube Q it is arrested at the bottom of it by the shield *v*, the end of which hangs within the opening *q*, cut in the tube, and catches the head of the tack whilst the point of it hangs down below the end of the tube in the space 6 between the jaws of the nippers N; then, as the nippers are drawn back in the direction of their arrow, the head of the tack being still in the tube and the point of it in front of the stop *x*, it is prevented from being drawn back by the nippers, and they are forced apart by the body of the tack itself. At the next vibration of the arm M the tack is carried by the nippers under the punch E, which pushes the tack through the leather.

The inventor says: I *claim*, first, driving the tacks and cutting out the pieces of leather by a solid punch, operating in the manner substantially as set forth.

Second. I claim the nippers N, in combination with the rest *x*, and tube *q*, operating as described for the purpose specified.

No 22,340.—THOMAS D. BAILEY, of Lowell, Mass.—*Improvement in Pegging Jacks*.—Patent dated December 21, 1858.—The nature of this invention consists in providing means for jacking the last by simply turning the plate or turn-table on which the last is supported. Also, in providing means by which the sole of the shoe may be turned from a horizontal position, either way, until it is brought to a perpendicular position, or fastened at any intermediate angle, as may be desired for the convenience of the operator. And it also consists, in connexion with both the foregoing, in having it so arranged that the plate or table to which the shoe is fastened may be turned freely about, so that either side or heel or toe may be presented to the operator.

The inventor says: I *claim*, first, the method of jacking the last by turning the plate to which the last is fastened.

Second. I claim the combination of the lever H, screw F, and turn-table T, for jacking the last, substantially as described.

Third. I claim fastening the screw F, or its equivalent, stationary by means of the coupling pin L¹ and plate I, so that when the turn-table T is revolved it shall operate the lever and jack the last, substantially as described.

Fourth. I claim fastening the screw F, or its equivalent, to turn the plate T, after the last has been jacked, by means of the coupling wheel L and pin R, operated by the thumb latch O and spring P, for the purpose of preventing the screw F from turning round and loosing the lever H, substantially as described.

Fifth. I claim the combination of two hinges S S¹, cam levers U U¹, hinge seat B, the link C, and hand-set screw W, for the purpose and substantially as described.

No. 21,091.—EDGAR M. STEVENS, of Boston, Mass.—*Improvement in Pegging Machines*.—Patent dated August 3, 1858.—This invention relates to that portion of the mechanism of a pegging machine which operates directly on the pegs, and is particularly applicable to the pegging machine patented by this inventor on the 15th of December, 1857, and numbered 18,879. It may also be applied to other varieties of pegging machines.

The inventor says: I *claim*, first, a peg wood box or receptacle *s*, which is vibrated or reciprocated so as to bring the peg wood *s s s* upon the knife *r*, for the purpose of splitting a peg from the peg wood, and which is so located and arranged as to present the peg to or directly over the hole in the sole into which it is to be driven.

But I do not claim broadly any moving peg wood box, which is arranged remotely from the awl hole made in the sole, and there delivers the peg wood or pegs, which ultimately are fed to the awl hole into which they are to be driven.

Second. In combination with the vibrating or reciprocating peg wood box *s*, a stop which is adjustable to the length of the peg wood *s s s*, and is located in the mouth of *s* near the peg tube in *f*, and within less distance of the plane of the edge face of the knife *r* than the bigness of one peg, and whose function is to hold the peg wood against the action of the knife in splitting off the peg, and this I claim whether such stop forms a part of the cover of the peg wood box *S* or is separate therefrom.

Third. I am aware that it is not new to use a feed instrument having a compound movement like that described for *m*; that, therefore, I disclaim.

But I claim the mechanical means, or their equivalents, for producing said compound movement of *m*, the same consisting of the bell-crank lever *u* hinged to *m*, and the friction block *w* which is arranged to slide in the slot in *u*, both *u* and *w* being arranged to pivot upon *x*.

Fourth. The use of a spring (the spring on *v*) or its equivalent, in combination with a peg wood feeder *m*, having a range of feed movement when unobstructed, greater than the bigness of a peg, for the purpose of rendering the movement of the feeder *m* self-regulating, as set forth.

No. 19,354.—J. A. DUNWORTH and F. DUNWORTH, of Dobbs' Ferry, N. Y.—*Device for holding Horse Reins*.—Patent dated February 16, 1858.—This invention provides a permanent hold-fast for the reins, one that may be connected to the reins and not at all interfere with their proper management while the horse or horses are being driven, and at the same time holding the reins as soon as they are dropped from the hands of the driver.

Claim.—The elastic tubes *C C*, or their equivalents, placed within a case *A* attached to the dash-board, the reins being attached to the tubes, and the whole arranged substantially as and for the purpose set forth.

No. 22,130.—JESSE NECE, of Philadelphia, Pa.—*Improvement in Saddle-Trees*.—Patent dated November 23, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, rounding the underside of both the pommel B and cantle C of a wooden saddle-tree, where they bear on the side pieces, and employing in combination with the whole, the side slips *h* and *i* and *h*¹ *i*¹, so that the said side pieces may be free to vibrate on their hinges and still retain their proper relative position with regard to the pommel and cantle, as set forth.

Second. The metal-arched pieces E and F secured to the pommel and cantle of the saddle-tree, as described and for the purposes specified.

No. 20,439.—F. W. MICHEL, WILLIAM C. WILLCOX, and HENRY T. MILLER, of Utica, N. Y.—*Straw and Wood Over-Shoes*.—Patent dated June 1, 1858.—The over-shoe A is made of braided straw C, and is formed by sewing the braid over a last of the desired size and fashion. The heel B is made of wood and is fastened to the shoe by means of copper rivets.

Claim.—The straw over-shoe, constructed in the manner and for the purposes mentioned.

No. 19,461.—ABIJAH WOODWARD, of Keene, N. H.—*Improved Shoe-Peg Machine*.—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim a fluted feed roller and splitting knife combined, irrespective of the manner in which the combining is effected.

Nor do I claim the arrangement of the roller in an adjustable frame which cannot be adjusted without injuriously affecting the feed movement of the roller.

But I *claim* giving an uniform and arbitrary intermittent rotary motion to the fluted feed roller, whatever may be its adjustment, by means of two bevel wheels *kl*, peculiar screw cam I, worm-wheel *h*, and pinions *i j*, arranged as follows: one of the bevel wheels being on the upper end of a vertical shaft, and the other which must always gear with the first, being on the end of the fluted roller, and both being adjustable so as to suit different thicknesses of peg blocks without getting out of gear with one another, and with the driving shaft; the cam being so constructed, and its screw-thread arranged in such relation to the eccentric pin which moves the splitting knife, that the feed or movement of the block will always cease or be completed before the knife commences to descend, and again commences just as the knife has completed its ascent, all substantially as and for the purpose set forth.

No. 19,730.—AMOS H. BOYD, of Saco, Maine, assignor to SAMUEL F. CHASE, of said Saco.—*Improvement in the Manufacture of Shoe Pegs*.—Patent dated March 23, 1858.—The nature of this invention consists, first, in combining in one machine the several offices of feeding the block of wood from which they are to be cut, pointing and splitting them. Second, in moving by a single shaft the several departments

of machinery which perform the said several offices, each of said departments keeping pace with the other till the block is pointed and split. Third, in the continuous operation of the machine upon a succession of blocks, without requiring stoppage or interruption for the purpose of adjustment. Fourth, in the transversely grooved rollers, to hold the block firmly while being pointed.

The inventor says: First. I *claim* the combination of the pointer, splitter, and intermittent feed of the block, operated conjointly, substantially as specified.

Second. The construction and arrangement of the transversely or circumferentially grooved or threaded rollers, as a means of feeding and holding the block or bolt for pointing, substantially as specified.

No. 22,061.—AZRO BROWN, of West Waterford, Vermont.—*Improved Shoe-Peg Machine*.—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination and arrangement of the radial slotted plate *f*, eccentric helical or spiral edged plate, between which and the lower plate *e* it is confined, said lower plate *e* having depressions and gutters in its upper surface for receiving corresponding parts formed on the lower surface of the slotted plate *f*, and a raised or ridged portion nearer its centre, whose inner edge corresponds with the eccentric curvature of the edge of the plate; the said slotted plate *f*, and the other parts mentioned, being arranged and operated substantially in the manner and for the purpose set forth.

Second. I claim giving an intermittent progressive motion to the slotted plate *f*, by the combination of the ratchet notches on its under surface, spring pawl *K*, and oscillating lever *l*, attached by a connecting rod *m* to the pitman rod, as described.

Third. I also claim forcing or conveying the strips of wood from which the pegs are formed after being cut from the block or bolt, by means of the combination and arrangement of the traversing bars *V*¹ *V*¹, guided by wheels on the end of the cross-head, at the angle where they are connected, curved groove *V* in the drum *P*, and knives *W*, between which the strip is first deposited and subsequently conveyed through the slot in the rim of the plate or rim *e*, and under the V-shaped cutter *V*, substantially as set forth.

Fourth. I claim the combination of the cylindrical knife *H* and cutters *J*, as described.

No. 21,104.—ISAIAH G. WORTH, of Vassalborough, Maine.—*Improved Machine for Manufacturing Shoe Pegs*.—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the combination of a reciprocating knife, a fluted feeding roller, and a mechanism for so operating both as to feed a peg block along with an intermittent motion, and cut pegs from it, as I am aware that such is the principle of the well known Baldwin peg cutting machine.

But I *claim* an improved machine consisting of a combination and

arrangement, essentially as specified, of a vibrating knife F, or its equivalent, a bench or table, two fluted feed rollers L L, and mechanism for imparting to such rollers intermittent feeding motions, in opposite directions, the same being productive of advantage in cutting blocks into pegs.

No. 19,282.—B. F. STURTEVANT, of Boston, Massachusetts, assignor to Himself and ELMER TOWNSEND, of said Boston.—*Improved Method of Preparing Blanks for Shoe Pegs*.—Patent dated February 2, 1858.—In operating this machine the lumber employed is first sawed into planks of two inches thickness, then into strips, from which all knots and other imperfections are then cut out and the clear strips are glued together, forming a new plank of clear stuff; these planks are then sawed into blocks the thickness of which is equal to the length of the pegs. The blanks thus formed are assembled in packages and are held together by narrow bands of adhesive paper which attaches itself to opposite sides of each strip, the blanks being torn off one by one, the adhesive paper holds all the remaining blanks in a body.

Claim.—First. The described process of making blanks for shoe pegs by sawing and gluing up the material in the manner substantially as set forth for the purpose specified.

Second. I claim the method described of securing the blanks in passages, by means of bands of adhesive paper, or their equivalents, whereby the blanks may be placed in the machine and removed therefrom in bundles, as set forth.

No. 21,223.—DANIEL J. TAPLEY, of Danvers, Massachusetts.—*Improved Combination Shoe-Tool*.—Patent dated August 17, 1858.—The nature of this invention consists in making a combination tool which will answer in the place of a “tack stamp,” “last hook,” and “peg cutter;” *a* is the “tack stamp,” *B* the last hook, and *A* the peg cutter.

Claim.—The combination and arrangement of the “tack hole stamp,” “last hook,” and “peg cutter,” substantially as described and for the objects specified.

No. 20,882.—FREEMAN KILLBRITH, of Pembroke, Massachusetts.—*Improvement in Shoemakers' Edge-Planes*.—Patent dated July 13, 1858. The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The attachment to the edge now in use, and known as Dunham's patent, of the movable guard C with its screw *e*, the guard being movable to and from the edge of knife D, and sliding on the face of the shank B, and also the attachment to the shank B of the knife D, with its screw *f* working in a slot, and raised or lowered to any desired gauge for paring soles, and which knife D can be wholly removed from the shank B by unscrewing the screw *f* and so ground or sharpened, and be replaced by a new knife if necessary.

No. 19,284.—JOHN ALLENDER, of New London, Connecticut.—*Implement for Holding Open Shoes, Bags, &c.*—Patent dated February 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—A pair of forceps with one jaw, provided with a plate for the inside of a shoe, sack, or other article; the other jaw carrying two arms, one to clamp the shoe, sack, or other article, against the first mentioned jaw or plate upon it, and the other arm carrying a bar or plate to spread the opening in the shoe, sack, or other article, substantially as described.

I also claim making the bar that carries the arm that spreads the shoe, sack, or other article, adjustable, substantially as described, so that the forceps or apparatus may be adapted to shoes and sacks of various sizes.

No. 21,500.—JACOB JENKINS, of Charlestown, Massachusetts.—*Improved Heating Apparatus for the Manufacture of Cemented Sole Shoes.* Patent dated September 24, 1858.—The claim and engravings explain the nature of this invention.

Claim.—An improved heating apparatus for the manufacture of cemented sole shoes, consisting of the box A provided with door B, glass front *b*, deflector *f*, as described, openings *d*, and lamp C or its equivalent, for heating, arranged and operating substantially as and for the purposes set forth.

No. 21,051.—LEANDER LACKEY, of Sutton, Massachusetts, assignor to Himself and ELMER TOWNSEND, of Boston, Massachusetts.—*Improvement in Machines for Pegging Shoes.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim holding the last or shoe up to the pegging mechanism by means of a weighted lever and a standard connected together by a universal joint.

But I *claim* the combination of the heavy inertia block P with the weighted lever R, and either the last or the standard for supporting the last, the same being for the purpose as specified.

I also claim the arrangement of the inertia block with reference to the lower bearings K K of the universal joint—that is, so that a vertical line passing through the center of gravity of the inertia block shall fall on one side of and at a distance from the axis of such bearings, the same being for the purpose as set forth.

I also claim combining with the inertia block and its universal joint, a mechanism for revolving the inertia block twice while a sole on the shoe last is being pegged, such a mechanism as shown in the drawings, consisting of the flange *n*, the griper *o*, the connexion bar *p*, the lever *q*, the pitman *r*, and the cam E.

I also claim so arranging and applying the last standard on the inertia block that the position of the standard may be varied on the block, in order to change the inclination or slant of the pegs, as described.

I also claim arranging and combining with the peg feeding mechanism, substantially as described, a mechanism for receiving each peg

and condensing or compressing it just prior to its being driven into the sole; such a mechanism is shown in the drawing, consisting of the slider g^1 , the hook, slide bar m^1 , the toggles $i^1 k^1$, the pitman b^1 , and the mechanism for actuating the said pitman as described.

I also claim the combination of the wedged pitman b^1 , its side cam d^1 , the recessed post Z, and the stud of the feeder C, the same being the mechanism for feeding the shoe along.

I also claim combining with the feeding mechanism a mechanism, substantially as described, for imparting to the shoe last an intermittent, reciprocating lateral motion, such as will cause the machine, when in motion, to insert two rows of pegs in the sole; such a mechanism as shown in the drawings, consisting of the pitman d^2 , the notch x^1 , the recess z^1 , the stud e^3 , the heart cam a^2 , and the plate v^1 .

No. 19,542.—JOHN H. BROWNE, of Abbey Mills, Romsey Hants, England.—*Improvement in Manufacture of Artificial Skins*.—Patented in England November 18, 1853.—Patent dated March 9, 1858.—This invention has for its object to produce artificial skins for the manufacture of parchment, or such like article, and leather; and consists in employing the other parts of hides and skins, by reducing the same to pulp, and then, by rollers or pressure, to produce sheets. For this purpose the parts of hides or skins should have the outer surfaces removed, and soaked in water having dissolved therein, by preference, barilla and caustic lime, though other matters may be used. They are then well washed and subjected to a bath of water having therein alum and sulphuric acid. The parts of hides are then washed, pulped, and subjected to pressure between rollers or other pressure.

Claim.—The manufacture of artificial skins described.

No. 21,764.—JOHN LOUDON and HANS IVERSEN, of New York, N. Y.—*Improvement in Stirrups*.—Patent dated October 12, 1858.—The nature of this invention consists in the application of a joint $a a$ in each of the sides $b b$ of the stirrup, about midway between the bottom or tread c and the eye d receiving the strap e , whereby the bottom c cannot become impinged on to the sole of the shoe, because in cases where a person is thrown from a horse the foot turns the lower part c into a position shown in figure 2, when the bottom c approaches toward a parallel line with the pull of the strap e , and the stirrup will slide off.

Claim.—Constructing a stirrup with a joint at or near the centre of the sides b , substantially as and for the purposes specified.

No. 21,755.—BARZILLA HARRINGTON and NELSON RUSSELL, of China, Maine.—*Improvement in Tanning*.—Patent dated October 12, 1858.—By this invention *comptonia aspenifolia*, or sweet fern, is used in lieu of bark or other tanning material for the purpose of converting raw hides into leather. The fern is leached in the same way as bark in the usual mode of tanning, the use of a bark mill being unnecessary.

Claim.—The use of *comptonia aspenifolia*, or sweet fern, in room of bark or any other tanning material now in use.

No. 21,705.—A. C. TAGGART and A. GRAY, of Alleghany City, Pa.—*Improved Tannery*.—Patent dated October 5, 1858.—The nature of this invention consists in an arrangement for agitating, separating, and conveying the liquor from one tan vat to another. *a* are the rocking shafts, which have their bearings on pivots, marked *y*, placed in the cross beams of frame *e*, and are held on the pivots by the links *x*; to the shafts are attached arms *d*, and upright levers *b*, which are attached to a beam *c*; this beam is connected to the driving power; the length of the arms will regulate the dip of the agitating frames *3*; to these frames are attached rods *1*; these rods are connected to arms *d*, on the shafts *a*.

The inventors say: We *claim*, first, the arrangement of the pivot *y*, and links *x*, as herein described, and for the purposes set forth.

Second. The use of the pipes *n*, when placed near the top of the vats and used in connexion with the pipe *o*, as described and represented and for the purpose specified.

No. 21,168.—THEODOR KLEMM, of Pfullingen, of Rentlingen, near Stuttgart, Wurtemberg, Germany, assignor to EDWARD MOSS, of London, England.—*Improvement in Tanning Hides*.—Patent dated August 10, 1858.—This invention consists in the preparation for preservation of hides, skins, and other animal tissues, by impregnating them with compounds of certain vegetable, animal and saline substances, or any equivalent therefor, by means of mechanical agitation and heat.

The inventor says: I do not wish to be understood as limiting my claim to the use of the special composition of matter herein specified, as the said composition of matter may be varied within the range of my invention.

What I *claim* is, the process of treating and impregnating hides, skins, and other animal tissues, by alternately agitating them in a heated atmosphere or current of heated air, and rubbing or smearing them with the substances specified, substantially as and for the purpose specified.

No. 21,126.—LEWIS C. ENGLAND, of Owego, New York.—*Improvement in Apparatus for Tanning Hides*.—Patent dated August 10, 1858.—This improvement consists in suspending the hides in the vat, at the commencement of the process, in such a manner that they shall be free to shrink, and keeping them so suspended, without disturbance, until sufficiently tanned, the different liquors required being supplied one after another, and each liquor being kept at all times among the hides. *A* is the vat, and *a* represents the skins or hides.

Claim.—The described improvement in the art of tanning—that is to say, causing the liquors to circulate among hides which are kept in fixed position, for the purposes and substantially in the manner set forth.

No. 19,201.—BUTLER G. NOBLE, of White Water, Wisconsin.—*Improvement in Tanning Leather*.—Patent dated January 26, 1858.

The inventor says in describing his improvement: One hundred calf skins having being prepared by depilating and bathing in any of

the usual modes, are immersed in a preparation consisting of ten pounds of catechu dissolved in a sufficient quantity of water to cover the skins. In this they are kept in motion for two or three hours until well colored, when there is added ten pounds more of catechu to the solution, and permitted to remain, with occasional handling, from fifteen to twenty-four hours. They are then removed, and there is then added to the vat containing the liquor fifteen pounds of catechu, ten pounds of sulphate of soda, and two pounds of common salt.

The skins are then immersed in the liquor and allowed to remain, with the addition of ten pounds of catechu each day thereafter, until tanned, which is usually from five to ten days. They are then removed and a new liquor is prepared, consisting of water sufficient to cover the skins; catechu, five pounds; alum, three pounds; and common salt, one pound. In this the skins are placed and remain about twenty-four hours, when they are removed. The "fixing bath" is then prepared, consisting of water sufficient to cover the skins, one ounce of commercial nitric acid, and one-half ounce of glycerine to every four gallons of water, in this the skins are placed.

The inventor says: I am aware that sulphate of soda, chloride of sodium, alum, and nitric acid, have been used in different proportions and combinations in other processes of tanning, and therefore I do not claim their use in any manner differing substantially from my own.

But I *claim* the fixing bath composed of nitric acid and glycerine diluted with water, in the proportions specified or thereabouts, and employed substantially in the manner set forth.

No. 20,565.—HORACE G. JOHNSON, of Cleveland, Ohio.—*Improvement in Tanning Leather*.—Patent dated June 15, 1858.—The tan liquor is prepared in the following manner: To one gallon of strong decoction of Anthemis Cotula (one pound of the dry herb to one gallon of water) is added $\frac{1}{4}$ of a pound of catechu, or terra japonica, two ounces of alum, and two ounces of common salt, mixed well together.

Claim.—The use of the Anthemis Cotula, or any other species of Maruta, either separately or mixed with terra japonica in any proportion, or combined with alum and common salt or their chemical equivalents, in the manner and for the purpose set forth, not intending, however, to confine myself to the exact proportions named.

No. 20,502.—JESSE MORGAN, of Sumterville, South Carolina.—*Improvement in Method of Tanning*.—Patent dated June 8, 1858.—The claim will explain the nature of this improvement.

Claim.—The compound, composed of saccharine matter, glauber salts, and muriate of soda, in about the proportions set forth, for the purpose of expeditiously completing the process of tanning as described.

No. 19,211.—CHARLES A. SHAW and JAMES CLARK, of Biddeford, Maine.—*Improvement in Apparatus for Tanning Skins*.—Patent dated January 26, 1858.—In fig. 1, *a a a a* is a strong frame work, or false vat, having two open sides and made exactly to fit the real vat I, in which the hides *b b* are placed, firmly secured on two opposite

sides to sticks *c c c c*. These sticks are supported at each end by horizontal rests *d d d d*, which rests are strongly bolted to the inside of the ends of the frame work at a sufficient distance only from the side of said frame to freely admit the said sticks, thus keeping the sides fully extended while in the frame *a*.

The inventors say: We make no claim whatever to the invention of Wattles, as patented by him May 26, 1857, or any part thereof.

We *claim* the use of the horizontal movable frame rods or sticks *c c c c*, the toothed bars *m m m m*, and the rests *d d d d*, or their equivalents, for the purposes set forth and specified.

No. 21,394.—JOHN C. DE WITT, of West Bloomfield, N. J., assignor to Himself and TERAFF BENEDICT, of Newark, N. J.—*Improved Trace Fastening*.—Patent dated August 31, 1858.—The object of this invention is to obtain a buckle or fastening for securing the traces of harness to their hame tugs without injuring the traces, and at the same time obtain also a fastening that will admit of a ready adjustment and form a sure connexion.

Claim.—The frame or body *D*, provided with the tongue *f* projecting from it at right angles when the frame or body is connected with the plates *e* of the tug *A* by means of the pivots *b b* of said plate, fitting in oblong slots *c* in the sides *d d* of the frame or body, so that the same may be shoved forward and backward to admit of its being locked, and also of being opened, substantially as described.

No. 22,454.—UEL J. REYNOLDS, of Webster, N. Y.—*Improvement in Trace Fastenings*.—Patent dated December 28, 1858.—This buckle is called the "box buckle" and is used for attaching tugs to harness. It is to be made of various sizes, and of any metallic substance suitable to the purpose for which they are designed.

The inventor says: I *claim* the formation of the eye *d* which receives the tongue *E*, for the purpose described and set forth.

Second. The tongue *E*, in combination with the tube *c*, spiral spring and bolt *e* in the eye *d*, as described.

No. 19,934.—SAMUEL LAGOWITZ, of Newark, N. J.—*Improvement in the Mode of Constructing Trunk Handles*.—Patent dated April 13, 1858.—*A* is a metallic male die, made the exact shape and size of a leather handle for a trunk; this die corresponds with and fits in the female die *B*, thus forming a mould to shape the upper or ornamental portion of the leather handle shown at *C*.

The inventor says: I do not claim to be the inventor of pressing leather into dies or moulds for the purpose of ornamenting the same; this has long been in common use for various purposes.

I *claim* the thin leather shell, prepared, packed and stitched in the manner and for the specified purpose, substantially as described and shown.

No. 20,832.—ROBERT M. WADE, of Wadesville, Va.—*Trunk Protector*.—Patent dated July 6, 1858.—The object of this invention is to prevent injury to trunks by rough usage. It consists in providing

a skeleton casing of sufficient strength and elasticity to resist the blows to which the trunk may be subjected, which casing is to be attached in the manner of an ordinary canvas cover.

Claim.—The skeleton trunk casing made up of wooden strips B B, with bent extremities connected with straps S S and attached to the trunk, substantially as and for the purposes set forth.

No. 20,259.—JOSEPH DUDLEY, of Fall River, Mass.—*Improvement in Card Plates for Trunks.*—Patent dated May 18, 1858.—This device consists in a metallic frame A, having a transverse central cross-piece and two transverse end pieces, and a spring or elastic D plate placed on the central cross-piece, its ends being underneath the end pieces and used in connexion with it to secure the cards in the frame which is placed on the trunk.

Claim.—The frame A, provided with transverse bars B C C, and an elastic plate D, the frame being secured to the trunk, and the whole arranged substantially as and for the purpose set forth.

XVII.—HOUSEHOLD FURNITURE, ETC.

No. 21,218.—J. B. SARGENT, of New Britain, Connecticut.—*Improved Andiron.*—Patent dated August 17, 1858.—The nature of this invention consists in the mode of manufacture, whereby they are cheaply made and easily detached to be packed closely in crates or boxes, in order to prevent breakage in transportation.

The inventor says: I am aware that andirons have been made having a bolt with a screw on the upper end for the purpose of securing the ornamental pillar, and also having a shoulder on the lower end passing through the legs and fire-iron, and riveted on the under side, which cannot be said to be detachable; nor neither do I claim such.

But I *claim* the construction and arrangement of the legs A, the fire-iron B, the pillar C D, all secured together by the bolt E, in the nut c, in the upper portion of the pillar D, all of which can be readily detached when desired, in the manner and for the purpose as described.

No. 19,402.—AHAZ N. ALCOTT, of Gowanda, New York.—*Improved Apple Corer.*—Patent dated February 23, 1858.—This invention consists in combining with a shaft D, which is first bored into the apple, a knife F, which may be thrown out from the shaft while the apple is upon it, to cut out the larger part of the core in the middle of the apple. The knife is thrown out, so as to cut this part of the core, by the collar I, which rotates with the shaft D, but is kept from sliding with it by the bracket or arm J, which is attached to the standard D, and a disk flange i, turning in a notch in this bracket or arm J for that purpose.

Claim.—The combination of the knife F with the shaft D and collar I, or its equivalent, by which the knife may be thrown out from the shaft to cut out the core in its largest part, as set forth.

No. 21,695.—ADAM OOT, of Minetto, New York.—*Improved Apple Paring Knife*.—Patent dated October 5, 1858.—The nature of this invention consists in attaching to a curved stock or handle, by means of adjusting screws, a curved blade, for the purpose of forming a convenient fruit paring knife for hand use.

Claim.—The combination and arrangement of the curved blade, with its projecting end, and the guard or stock, substantially as and for the purpose specified.

No. 20,295.—H. NORTON and J. S. B. NORTON, of Farmington, Maine.—*Improved Device for Slicing Apples*.—Patent dated May 18, 1858.—In this apparatus a reciprocating frame D, provided with knives *d*, a pressure bar E, and a rotating fork or arbor M, is used for the purpose of slicing vegetables rapidly.

The inventors say: We do not claim, separately, any of the parts described.

But we *claim* the combination of reciprocating frame D, provided with the knives *d* and pressure bar E, with the intermittingly rotating arbor G, the whole being arranged to operate as and for the purpose set forth.

No. 21,141.—CHARLES LOUNSBERRY, JR., of Nichols, New York.—*Improved Machine for Coring and Quartering Apples*.—Patent dated August 10, 1858.—The nature of this invention consists in so arranging and combining a cup or receptacle for the cores as they are cut, with a lever operating the cutting blades and coring tube, that the cores may be kept separate from the quartered apples, and thus dispense with the labor consequent to other machines worked with a lever, when this feature does not exist.

The inventor says: I am aware that the knife with a handle attached has been operated before now by hand, and therefore do not claim it.

I *claim* the combination and arrangement of the knife with the movable step *i i*, the standard *a*, with its attachment *d*, the cup *h h*, and spring *s*, being substantially made as described and for the purpose set forth.

No. 20,814.—J. J. PARKER, of Marietta, Ohio.—*Improved Machine for Paring, Slicing, and Coring Apples*.—Patent dated July 6, 1858.—In this device there is employed a rotating coring bit I, provided with radial flanches, a stationary screw F, and rotating slicing knives *c*, all constructed and arranged so that the operations of coring, slicing, and paring are performed in a perfect manner.

The inventor says: I *claim* the combination of the stationary screw, slicing and paring knives, by which the apples are fed and revolved, arranged substantially as and for the purpose described.

I further claim feeding the apples past the paring knife to the sliding device, by giving the apples a rotating motion, and using a stationary screw, the screw slicing device and paring knife being arranged relatively with each other, substantially as specified.

No. 20,550.—WILLIAM S. CARR, of New York, N. Y.—*Improved Attachment of Pipes to Water Closet Basins*.—Patent dated June 15, 1858.—The nature of this invention consists in a metallic socket *a*, attached to the end of the pipe *c*, and connected to the arm *b* of the basin by a rod *e* passing through said arm, one end of which attaches to the basin itself, and the other end passes through said socket and is provided with a nut *f*, the parts being rendered water-tight by leather washers.

Claim.—The socket *d*, rod *e*, and nut *f*, connecting the pipe *c* and arm *b*, substantially as and for the purposes specified.

No. 21,042.—ELLYSON YERBY, of Washington, D. C.—*Improved Batter Machine*.—Patent dated July 27, 1858.—This machine consists of a cap or head piece *a*, two upright side timbers *b b*, which connect with head piece *a* and the feet *c c* below; *d* is the brace between the head and feet; *e* is the horizontal shaft, wheel, and crank; *f* is the perpendicular shaft and wheel, extending from the cap downwards through the brace to within one inch of the bottom of the feet.

Claim.—The slide *g*, as a disconnecting apparatus, when said slide is used in combination with the conical pan and agitator, the said pan and agitator constructed substantially as and for the purpose described.

No. 20,362.—JAMES M. NOBLE, of Delhi, Iowa.—*Improved Bed Bottom*.—Patent dated May 25, 1858.—A series of pulleys are attached to the head and foot rails of the bedstead by means of straps, or other flexible material, and a rope passes through a pulley on the head rail, and then around one on the foot rail, from side to side of the bed, so that the rope forms a flexible, secure bottom.

The inventor says: I am aware that pulleys have been placed on pins attached to the rails of bedsteads, to serve merely as friction rollers or pulleys to ease and facilitate the adjusting of sacking bottoms to bedsteads, but I am not aware that rollers have been attached to bedstead rails as shown, and a rope passed around said pulleys as described, so as to form a flexible and yielding bed bottom. I do not claim broadly, therefore, the employment or use of friction rollers.

But I *claim* the pulleys B, attached to two opposite sides or ends of the bedstead by cords, straps, or equivalent means, so as to admit of the free turning of the pulleys and the twisting of the same in planes at right angles with their plane of rotation, in combination with the rope, which is strained around the pulleys, the whole being arranged as and for the purpose set forth.

I also claim, in combination with the pulleys B and rope C, the elastic bands *e*, for the purpose specified.

No. 20,486.—BENJAMIN GRIFFIN, of Lawrence, Mass.—*Improved Bed Bottom*.—Patent dated June 8, 1858.—The mortise bars D D are bolted to the rails opposite. The lower end of the spring A in the mortise is placed in one of the bars. One end of the slat is then put into the link C attached to the said spring.

Claim.—The mortise bar, the open link, the lifter spring with the

tapered slat, when combined and arranged for a bed bottom in the form and manner as specified.

No. 21,123.—W. H. ELLIOT, of Plattsburgh, N. Y.—*Improved Bed Bottom*.—Patent dated August 10, 1858.—The nature of this invention consists in the combination and arrangement of certain devices by which is produced a bed bottom which is entirely supported by conically-coiled springs *b*, the upper surface in all parts yielding alike to pressure, and in there being no unyielding frame-work of any kind above the beams upon which the springs rest to interfere with its comforts.

The inventor says: I am aware that beds have been constructed with springs, slats, and flexible strap, therefore I do not claim them or any of them independent of other devices, or of the peculiar arrangement set forth.

But I *claim* the combination and arrangement of braces *d*¹, flexible strap *e*, slats *d* and *c*, and springs *b*, whether the said braces *d*¹ reach from one outside slat to the other, or only to some of the intermediate slats, and whether said braces are attached to the upper or lower side of slats *d*, &c., as and for the purpose specified.

No. 21,263.—RUFUS LEAVITT, of Cambridge, Mass.—*Improved Bed Bottom*.—Patent dated August 24, 1858.—To secure the spring bottom to the bedstead, when combined with the webbing, it is necessary to compress the springs *b* nearest the catches *c*, and slip each catch over the head of its pin *d*; when the springs are released they will draw the catches upon the pins to the position shown in the engravings, thereby securing the spring bottom to the bedstead.

Claim.—The construction of an elastic bed bottom by means of a series of springs, constructed and arranged substantially in the manner described.

No. 21,519.—FRANKLIN RUSSELL, of Otselic, N. Y.—*Improved Bed Bottom*.—Patent dated September 14, 1858.—In this invention, instead of cords made of any other vegetable substance, metallic rods are used. The net-work is secured to the bedstead by iron bolts or hooks. There are ordinarily five of these hooks on each side, and three at each end.

Claim.—The combination and arrangement of the rods 2 and 3 with the wires 5, the bolts 4 in the rails 1, substantially as and for the purposes specified.

No. 19,473.—CHARLES SCHROEDER, of New York, N. Y., assignor to Himself and P. H. TUSKA, of said New York.—*Improved Bed Bottom*.—Patent dated February 23, 1858.—In this invention the wire *a* is inserted in one of the sides of the frame *X*, and thence is so wound upon a rod *b*, which extends along the frame, that it shall leave the rod upon the upper side. The spiral spring being formed upon the rod *b*, the wire passes over the upper side to another rod *c* placed parallel with the first on the general line of an arch and at a short distance from it. The wire passes on to the under side of this one,

and is wound upon it the same direction as before, thence leaving this rod *c* it is carried over a similar rod *d*, placed as far from *c* as that was from *b*, the wire resting upon the rod *d* and going on to the under side of the next equidistant one *e*. This is continued entirely across the frame, the last rod *l* receiving the wire upon its upper side, and which wire is inserted into the side of the frame at *a*¹; another wire *i* is now started from the frame X in the same manner, but this one passes over the rod *c*, merely resting upon it, and is wound as before from the under side upon the next rod *d*. This is continued across to the opposite side where the wire *i* is inserted into the frame at *i*¹.

The inventor says: I am well aware that helical springs coiled upon rods have been employed in bed bottoms, &c., and of course I make no claim broadly to that device.

But I *claim* the spring bottom constructed as described.

No. 19,410.—JACOB COOVER, of Chambersburg, Pa.—*Improvement in Spring Bed Bottoms*.—Patent dated February 23, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I *claim* constructing the lower slats D with joints at or near the centre, by means of plate G and hinges L, and the screw H passing through plate G, for raising and lowering the slats, as set forth.

No. 19,922.—ELBRIDGE FOSTER, of Hartford, Connecticut.—*Improved Spring Bed Bottom*.—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the peculiar spring.

But I *claim* the arrangement of the side and end springs—that is, so that while one set of springs shall be attached at the middle parts of each to the frame A and be made to bear at their ends against the bars F F, the other set shall be attached to their middle parts to the bars F F, and be made to bear at their ends on the frame A.

No. 20,609.—GEORGE E. SAFFORD, of New York, N. Y., assignor to Himself, F. G. WARD, and F. T. WARD, of Buffalo, N. Y.—*Improved Spring Bed Bottom*.—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the elliptic springs, thumb-screws, or frame E, separately considered, as my invention, neither do I claim hinges or a hinged frame as such.

What I *claim* is the jointed frame, hinged beneath and supported above, in combination with the springs, substantially as and for the purpose described.

No. 22,098.—NOAH WARLICK, of Chambers Court-House, Ala.—*Improved Spring Bed Bottom*.—Patent dated November 16, 1858.—This invention consists in having the bed bottom formed of a series of longitudinal wooden strips, or slats, having their lower ends, or the ends at the foot of the bedsteads, permanently attached at equal dis-

tances apart to a transverse bar, the slats at about their centre being attached to springs which rest on a traverse bar attached permanently to the bedstead, and the upper ends of the slats attached to a strap which serves as a stay; the whole being arranged so that an elastic, simple, and cheap bed bottom is obtained.

The inventor says: I am aware that wooden slats have been used with spiral springs, and therefore do not claim, broadly and irrespective of arrangement, such device.

But I *claim* the wooden springs D attached to the under side of the longitudinal slats B and resting on the transverse bar E.

I also claim the use of metal or india rubber springs resting upon said transverse bar for the purpose specified.

No. 20,097.—NOAH W. SPEERS, of Cincinnati, Ohio.—*Improved Bedstead*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: The connexion of the posts at top gives additional strength, but I do not intend to confine myself thereto in all cases, as the other features of my invention may be successfully used in the construction of bedsteads with short posts.

I *claim*, first, the bent posts A, in combination with the clamp B C, or substantially equivalent device, by which they are connected at top.

Second. The outside encircling rail D for supporting the posts and fastening the various parts together.

Third. The construction and arrangement of the corner fastening F in the described connexion with the rails and posts, for the purpose explained.

No. 20,635.—WILLIAM B. JOHNS, of United States Army.—*Improved Bedstead*.—Patent dated June 1, 1858.—The posts B B are made of thin bar iron, and are welded together along the straight portion *b*, an enlargement *c* being formed for the passage of the bolts C C¹. The head posts A A have a branch *f* at top for the reception of the head board H. The outer slats D D have notches *m* cut in their outer edges for the reception of the straight portion of the post. The bolts C have lever nuts *n* for permitting the application of sufficient power to thoroughly tighten the bedstead.

Claim.—The combination of slats, posts, and screw bolts, substantially as and for the purposes set forth.

No. 20,518.—WILLIAM ST. CHARLES, of Fairmount, Va.—*Improved Bedstead*.—Patent dated June 8, 1858.—The nature of this invention consists in framing the four posts of a bedstead together by passing three round tenons of a suitable size attached to the rails E E F F thereof through each post, two parallel tenons and the other at right angles, and receiving a screw nut, or incline outside of the post, and on the projecting end of the tenon.

The inventor says: I do not claim, separately, any of the parts described.

But I *claim* the combination of the old devices newly arranged in

the following manner: The collar L, the tenons A B C D, the holes A B C D, the nuts *e f g h*, and cylindrical bearded wire, arranged in combination with the construction of the head and foot board I I L L; the whole being arranged to operate conjointly as and for the purposes set forth.

No. 20,750.—C. A. WARNER, of Bristol, Connecticut —*Improved Bedstead*.—Patent dated June 29, 1858.—The nature of this improvement consists in the mode of constructing and arranging staples or pins C D, with pulleys B thereon, placed at regular intervals, over which the cord is placed; one end of which is secured at or near one corner of the bedstead, and the other to a winding spindle F, having a ratchet G and pawl H secured thereto, so that the cord may be tightened at will without removing the bedding.

The inventor says: I do not claim either of the parts separately considered, as I know they have been in use.

But I *claim* the arrangement of the staples and pins C D, pulleys B, spindle F, ratchet G, pawl H, in the manner and for the purpose as described.

No. 20,723.—NORMAN LAMPHEAR, of Monmouth, Illinois.—*Improved Bedstead*.—Patent dated June 29, 1858.—By turning the rods *d d*, or swivels *f f*, the springs *a a* can be reduced in diameter vertically, and their diameter increased horizontally. Also, the centre rail *i* is raised or lowered by means of the rods *d d*, or swivels *f f*.

The inventor says: I do not claim the invention of circular or elliptical springs.

But I *claim* the arrangement of those parts of bedstead with each other which serve for stretching and securing permanent elasticity in the bottoms thereof in the manner and by the means specifically set forth.

No. 21,527.—WILLIAM S. TODD, of Mechanicsville, Iowa.—*Improved Bedstead*.—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, attaching the ends of the side rails D D¹ of the bedstead to the foot and head posts B B¹, by the butt hinges E E¹, arranged in reverse positions with each other, so as to enable the said side rails and the head and foot rails to be folded together almost parallel with each other, in the manner and for the purpose described.

Second. I also claim the combination of the right-angled brace or rod I, groove L, in which it traverses, and turning winged or cam shafts M for disengaging the right-angled end of the said rod from the openings in the projections on the inner sides of the side rails, substantially as described.

No. 21,841.—RUFUS MAXWELL, of Tucker county, Va.—*Improved Bedstead*.—Patent dated October 19, 1858.—The engraving represents the position of the rails when in use, as they would be seen from the outside of the bedstead if the post was removed. The outlines of the

post are shown by the dotted lines A A. The dotted circle shows the outer periphery of the side rail. C is the end of the rail.

Claim.—The construction and arrangement of the end rail C, with the notch *d*, the side rail with the tenon B, substantially as described, as and for the purpose specified.

No. 21,878.—SAMUEL E. HARTWELL, of New York, N. Y.—*Improved Bedstead Bottom.*—Patent dated October 26, 1858.—This invention consists of an adjustable attachment between the side rails of the bedstead and the slats, whereby one end of a rubber or elastic loop is adjustably connected to the slat, and the other sets over a bar or rod connected to the sides of the bedstead, so that by adjusting the aforesaid attachment the bedstead bottom can be adapted to different variations in the size of the bedstead, and also to the particular strain or weight of each slat.

Claim.—The adjustable rack *f* carrying the elastic loop *g*, and connected to the slat *c* by the clasp *e*, substantially as and for the purposes specified.

No. 21,926.—FRANCIS HOFFMAN, of New York, N. Y., assignor to Himself and JOHN MENZILL, of said New York.—*Improvement in Bureau Bedstead.*—Patent dated October 26, 1858.—A is a box of rectangular form, and constructed externally to imitate a bureau. The front part of the box is movable, and is secured to the sides *b*, when the box is closed by means of the hooks *b*¹ and cleats *c*, the latter being attached to the front edges of the side of the box. The back *d* and sides *b* are permanently secured together, and a lid *e* is secured by hinges *f* to the upper end of the back, the lid *e* projecting a trifle beyond the top edges of the sides *b* and front *a*, and when the box is closed it is secured by a lock.

Claim.—A bureau bedstead, in which the bed bottom B is hinged so as to fold and expand horizontally, when opened or closed, as shown and described.

No. 19,451.—A. C. SEMPLE, of New York, N. Y.—*Improvement in the Fastening of Cast Iron Bedsteads.*—Patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engraving.

Claim.—Fastening the corners of bedsteads and other similar furniture by the mitre joint and the projections on the rails or sides, and the projections on the legs or supports catching behind them, by which the parts form their own fastening and mutually support each other, substantially as set forth.

No. 19,544.—WILLIAM CLARK, of Weymouth, Ohio.—*Improvement in Bedstead Fastenings.*—Patent dated March 9, 1858.—The finger I projecting from the under side of the bolt, near the head, prevents the bolt D from entering too far into the washer E, and affords greater strength to the fastening. On the under side of the rails A is secured a spring J at each end, as seen in figure 1, which reaches into the post C, where it clasps a pin K inserted in the posts; this connexion of

the spring J with the pin K prevents the bottom of the posts from slipping out.

Claim.—The arrangement of the bolt D with the head D¹ and finger I and the washer E, provided with the slot E¹ flange E², in connexion with the jointed rails, which are provided with springs J and pins K, for the purpose set forth.

No. 20,478.—GEORGE BURKET, of Croghan, Ohio.—*Improved Bedstead Fastenings.*—Patent dated June 8, 1858.—This invention consists in a bedstead fastening composed of a straight metallic pin *a* passed at right angles through the tenon on the rail, and of two metallic pins *b b* passed obliquely through the mortise in different directions, one being at or near the bottom, and the other being at or near the top of the mortise, so that when the pin on the tenon or rail is passed through between the two pins in the mortise, and the rail then slightly turned around the fastening shall be complete.

Claim.—Forming a bedstead fastening by a straight pin through the tenon, and two oblique pins through the mortise, as set forth and represented.

No. 20,839.—EDWARD S. WRIGHT, of Buffalo, N. Y.—*Improved Bedstead Fastening.*—Patent dated July 6, 1858.—This invention consists in the combination of a coupling hook C, pin E, and wedge D, for the purpose of a simple, cheap and effective method of coupling and fastening the post and rail of a bedstead together.

The inventor says: I disclaim either device separately considered.

But I *claim* the combination of the coupling hook C, wedge D, and pin E, arranged in the manner and for the purpose set forth.

No. 21,511.—ISAAC M. MAY, of Anderson, Ind.—*Improved Bedstead Fastening.*—Patent dated September 14, 1858.—This invention consists in constructing the fastening in such a way that when it is applied to a bedstead it not only connects the side rails to the posts, but the end rails also, and dispenses with the use of mortises and tenons, thereby considerably diminishing the cost of construction of bedsteads, and adding to the strength and durability of the same.

Claim.—The inventor says: I do not claim, irrespective of construction and the special adaptation shown and described, the employment or use of pins fitting in slots for the purpose of securing or connecting together the posts and rails of a bedstead, for various forms of such device have been used for the purpose.

But I *claim* the combination of the plates D E, secured respectively to the post A and rails B C, and provided with the oblique slots *ff* and pins *g g*, substantially as and for the purpose set forth.

No. 22,456.—OLIVER ROBINSON, of Rochester, N. Y.—*Improved Bedstead Fastening.*—Patent dated December 28, 1858.—This lock consists of two parts, the hooked bolt A and circular wrench B. A hole in the diameter of the circular part of the wrench and of a suitable depth to receive it is bored in the rail *c*, and another longitudinally in same rail, a block M being glued, on to give the requisite thickness, and at right angles with the first until they meet, receives the bolt A.

Claim.—The combination and arrangement of the hooked locking bolt A with the circular wrench and eccentric B, constructed as described, for holding the bolt by means of the lip *i* in the proper position for entering the post and tightening the connexion made with the pin *f* or its equivalent, substantially as and for the purpose set forth.

No. 19,254.—GEORGE MILLER, of Frémont, Ohio.—*Improved Invalid Bedstead.*—Patent dated February 2, 1858.—The lower portion of the frame H is connected by cords *c* with the windless I, first passing over the roller R. As the windlass is turned frame H is drawn out, causing frame A to be lifted and frame C to be drawn down by reason of its connexion with pieces G; the back of the chair is thus supported by the cords and springs S. Any inclination can be given the back by stopping the rotation of the windlass at the time the back inclines, as desired.

The inventor says: I *claim* the three frames A B C, in combination with the longitudinal pieces F, connecting pieces G, secondary frame H, springs S, and drawing mechanism, constructed, arranged, and operating, as set forth.

I also claim, in combination with the foot-piece of the bed, the roller R¹ and plate P, attached thereto, operating as and for the purpose set forth.

No. 20,580.—JOSEPH PARKER, of Liverpool, England.—*Improved Invalid Bedstead.*—Patent dated June 15, 1858; patented in England, December 14, 1857.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that bedsteads have heretofore been made in which parts of the frame have been made movable, so that the whole or part of the body of the patient or persons reclining thereon may be raised into various positions as may be required. I do not, therefore, mean or intend to claim the exclusive right to use or apply movable frames to bedsteads for such purposes except when such object is effected in the manner and by the means of the mechanical appliances and arrangements above described, or any analogous contrivances.

In conclusion, I *claim*, 1st. The mode shown and described of constructing and operating the movable parts of invalid bedsteads. I claim, particularly, the combination of the movable head-board *c* with movable frame *i*, and also the attachment of the bolster to the head so as to prevent it from slipping behind the patient.

2d. I claim the use and application for the purposes mentioned, or for analogous purposes, of the movable foot-board, and the mode of constructing and operating the same.

No. 19,987.—ZEBULON C. FAVOR, of Chicago, Illinois.—*Improvement in Portable Invalid Bedsteads.*—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The arrangement in an invalid cot bedstead embracing the

following several features, to-wit: two slotted straps G G l, two stop pins j j, two loops k, turning thimble eyes D D, punctured strips e e, bevelled rails A A, obliquely-set pivoted legs B, and turning thimble stop catches C, in the manner specified, and for the purpose of producing an improved new article of manufacture of the character set forth.

No. 20,092.—CHARLES ROBINSON, of Cambridgeport, Massachusetts.—*Improved Bedstead Rail*.—Patent dated April 27, 1858.—This elastic support rail may compose the rail of the bedstead proper or may be separate, so as to be placed upon or attached to the ordinary rails of the bedstead and removed at pleasure; or it may compose part of a bed frame to be placed on the bedstead for the reception of the bed, as shown in the engravings.

The inventor says: I do not claim the employment of a stretched elastic band supported at intervals by projecting pins or their equivalents, on which to place the bed or slats, such being liable to objections which my improved arrangement obviates.

But I limit my invention to an elastic support rail, composed essentially of the constituents described, united as a complete, inseparable whole and unit of construction.

I claim an elastic support bedstead rail, composed of the notched rail-piece A, stretched elastic band B, and confining or cap strip C, arranged, combined, and operating in the manner and for the purpose specified.

No. 20,206.—JOHN IRWIN, of Philadelphia, Pennsylvania.—*Improved Sofa Bedstead*.—Patent dated May 11, 1858.—This improvement consists in constructing sofa bedsteads with threefold hinges, having two of the straps bent at right angles, so as to embrace both the edge and side of the back D and seat E, thus giving better support to the wood and preventing the liability of splitting or of tearing the screws from their hold, or of breaking the hinge.

The inventor says: I am aware that the branches of gate hinges have been bent, and that a threefold hinge is not in itself new; but my hinge differs from all other known hinges, and, in its application to sofa bedsteads, forms, I believe, both an important and a patentable improvement.

I claim the described hinge, in combination with the back and seat of sofa bedsteads, for the purposes substantially as set forth.

No. 19,649.—NATHAN M. PHILLIPS, of New York, N. Y.—*Improvement in Spring Bedstead*.—Patent dated March 16, 1858.—C C¹ are cross-bars, in which the springs E are placed, and which swing on pivots in their ends in the boxes or catches D secured at the head and foot of each side of the bedstead. E is a coiled spring, one of which is connected to each end of each of the bottom bars F by the flexible connexion F¹. They are formed of wire and are inserted in apertures made in the cross-bars C C¹, and confined in place by the caps of the cross-bars being screwed or fastened down upon them.

Claim.—The combination of the cross-bars C C¹ and the spiral

springs E with the bottom bars F and flexible connexions F¹, connected, arranged, and operated as and for the purposes set forth.

No. 19,449.—CHANDLER ROBBINS, of Chicago, Illinois.—*Improvement in Wardrobe Bedsteads*.—Patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I am aware that press bedsteads have before been used, but I am not aware that the peculiar arrangement, construction, and combination specified have ever before been known or used; therefore,

I *claim* the arrangement of the attachment of the sacking to the bar I with the strap *e*, for holding the bed and clothes in position, substantially as described.

No. 21,108.—THOMAS W. MOORE, of Plattsburgh, New York, assignor to ELLIOT & MOORE, of said Plattsburgh.—*Improvement in Machines for Making Beef and Other Stakes Tender*.—Patent dated August 3, 1858.—The nature of this invention consists in the employment of a pair of strong iron jaws filled with pointed teeth, and operated by means of a lever in such a manner that the meat is pierced by the teeth of both jaws, and by the peculiar motion of one jaw in relation to the other the meat is torn without being crushed.

Claim.—The combination of joint *g*, lever *b*, and the jaws *c* and *d*, when the devices are so arranged that the jaws operate in relation to each other, substantially as and for the purpose specified.

No. 19,082.—NEVINGSON G. DU BOIS, of Brooklyn, New York.—*Improvement in Bell Hanging*.—Patent dated January 12, 1858.—The nature of this invention consists in connecting the flat crank plate, fig. 1, at right angles with a head plate, fig. 2, by means of a dovetail, fig. 3.

The inventor says: I do not claim the invention of the bell crank or the dovetail.

But I *claim* the improvement of bell cranks by connecting the flat crank plate with the pillar crank plate by means of a dovetail, and thereby make one crank answer for either, substantially as described.

No. 21,335.—ALBERT W. HALE, of New Britain, Connecticut.—*Improved Portable House Bell*.—Patent dated August 31, 1858.—This invention consists in the employment of a sliding arbor having a pin projecting horizontally from it, and also having a spiral spring placed around it; the above parts being used in connexion with a spring, or elastic tongue, provided with a projecting plate, whereby a simple device is obtained for sounding the bell by a single longitudinal movement of the arbor.

Claim.—A spring hammer tongue E provided with a projection *g*, so arranged as to be operated upon by a pin *e* attached to an arbor C, for the purpose set forth.

No. 21,422.—GEORGE R. MENEELY, of West Troy, New York.—*Improvement in Hanging Bells*.—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Uniting a bell furnished with horns to a yoke, through the intervention of a cap and clevis bolts, as that said bell may be turned in its yoke, in the manner and for the purpose specified.

No. 19,075.—JAMES M. CONNEL and JOHN CONNEL, of Newark, Ohio.—*Machine for Blacking Boots, Shoes, &c.*—Patent dated January 12, 1858.—The nature of this invention consists in a shaft on which is mounted cleaning, blacking, and polishing brush wheels, and an adjustable blacking box for the supply of the blacking wheel.

The box E is adjusted so that the brush W^1 , when revolving, will be supplied with blacking. The boot is held against wheel W, which removes the dirt; the boot is then applied to wheel W^1 , which coats it with blacking. The friction brush W^{11} performs the polishing. As the blacking in box E is consumed the box is elevated by screw F.

The inventors say: We do not claim rotary brushes as polishers, broadly considered, as such is not new.

But we *claim* the arrangement upon a rotary shaft of cleaning, blacking, and polishing brushes W, W^1 , W^{11} , as described, when combined with the vertically adjustable blacking box E under the brush W^1 , as and for the purposes set forth.

No. 20,307.—ORSON I. SIKES, of Suffield, Connecticut.—*Improved Bootjack*.—Patent dated May 18, 1858.—This improvement consists in attaching clamps to the jacks as ordinarily constructed, so that the foot or heel portion of the boot is brought back into the jack; the heel portion of the clamps open against pins, or stops, and cramps the heel of the boot, while, at the same time, the toe portion of the clamps close over the toe of the boot and thus holds the boot while it is being drawn off.

Claim.—The arrangement of the clamps B, spring D, pins F, operating in the manner and for the purpose described.

No. 22,404.—FREDERIK AHL, of West Meriden, Connecticut.—*Improved Bootjack*.—Patent dated December 28, 1858.—This improvement consists in constructing a bootjack that will afford a rest for both hands to hold it steady while drawing the foot from the boot. And in not only having the notch or space for the heel of the boot, but also a vibrating piece of the proper shape to rest upon the upper surface of the foot of the boot between the toe and instep, so as to hold the boot in the most convenient position to draw the foot from it.

Claim.—The described arrangement of the platform A, vibrating arm F, and cross bar H, when the whole is arranged, constructed, and made to produce the result described.

No. 19,844.—F. C. GOFFIN, of Newark, New Jersey.—*Bootjack and Burglars' Alarm Combined*.—Patent dated April 6, 1858.—This invention consists in the employment of two adjustable or movable jaws B B and a spring treadle attached to a bed or plate A and used

in connexion with a catch *e*, the parts being so arranged that the treadle C is made to perform the double function of operating the jaws when pressed down by the foot and the implement used as a bootjack, and of sounding an alarm when the implement is used as a burglar alarm and placed in proper position against a door.

The inventor says: I do not claim broadly the employment of movable jaws, to clamp and hold the heel of the boot.

Nor do I claim broadly the employment of spring door alarms, to give them a signal when attempt is made to force an entrance.

But I *claim* as an improved article a bootjack alarm, made substantially as described, to wit: the bed A, jaws B, treadle C, pendant E, slide F, and spring D, arranged substantially as described, whereby the article serves the double purpose of a bootjack and door alarm.

No. 21,619.—WILLIAM R. NEVINS and JOSEPH J. YATES, of New York, N. Y.—*Improvement in Bread and Cracker Machines*.—Patented in England March 13, 1857; patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim*, first, extending the endless apron H for the conveyance of biscuit or crackers, and oval or angular bar J, over which it passes, beyond the end of the frame A, and arranging the same in the relation to the hexagonal roller over which the endless metallic apron H¹ of the oven passes, and which has a corresponding intermittent progressive motion with the endless apron H, in the manner and for the purpose described.

Second. We also claim combining and arranging with the lower endless apron H, in the relation described, the upper endless apron D, for separating the scraps from the biscuit, as described; the two aprons H D being made to move together by means of the ratchet wheels F G, notched bars L L², and oscillating arm or bar L] attached to rock shaft S, which may be actuated by an eccentric or other convenient means, as set forth.

No. 19,238.—MATTHEW CHAPMAN, of Greenfield, Massachusetts.—*Improved Bread Cutter*.—Patent dated February 2, 1858.—This invention consists in a rotary knife and bed in connexion with a stationary hopper, in which the bread is placed, and a platform, all arranged so that the bread may be cut in a rapid manner.

The inventor says: I *claim* the rotating knife G and bed H placed on the shaft B, when used in connexion and arranged relatively with the platform A and hopper or opening F, so as to operate substantially as and for the purpose set forth.

No. 19,190.—THOMAS FLOYD, of Chambersburg, Virginia, assignor to Himself, DANIEL K. WUNDERLICH, and BENJAMIN F. KNEAD, of said Chambersburg.—*Improvement in the Art of Making Brooms*.—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim clamp plates stamped up of sheet metal, as this is not new.

But I *claim* the cast metallic clamp plates B with points *d*, between

which is placed and compressed the material used by means of the bolt and screw *b* which passes through the plates and material, and which is firmly secured by means of said bolt and screw, as described, and for the purpose of making brooms or brushes without sewing, as set forth.

No. 19,039.—ABNER MITCHELL, of Easton, Pennsylvania.—*Improvement in the Construction of Brooms*.—Patent dated January 5, 1858.—This invention consists in having a metal socket *A* attached to two clamps, whereby the whisks of corn are secured together, and also the socket which receives the handle is secured to the whisks of corn.

Claim.—The metal socket *A*, with shank *a* and cross bars *B C* attached, the cross bars having rods or bars *b b¹ f f¹* attached or connected at one end by joints, so that the whisks of broom corn may be secured or clamped between them, for the purpose set forth.

No. 19,971.—JOHN W. WHEELER, of Cleveland, Ohio, assignor to Himself and C. D. WILLIAMS, of said Cleveland.—*Improved Machine for Manufacturing Splints for Brooms*.—Patent dated April 13, 1858.—The purpose for which this machine is intended is to divide the splints made from the ash tree, or other timber, into narrow strips of uniform width, thus preparing them for the manufacture of brooms, brushes, or similar structures.

Claim.—The groove cylinders *A A*, the periphery of whose tongues or ribs *c c c c* pass each other as seen at *e e e e*, the edges being in contact and acting like revolving shears when arranged in combination with the delivering combs *E E*, all operating in the manner and for the purpose set forth.

No. 20,226.—JOEL EAYWOOD TATUM, of New York, N. Y.—*Improved Brush*.—Patent dated May 11, 1858.—This invention consists in having the back of the brush, in which the bristles are secured, formed of a thin metal plate, the bristles being detached from each other and at equal distances apart.

Claim.—The brush constructed as herein shown and described, so as to form a new and useful article of manufacture, to wit: Having the bristles *B* secured in detached positions in a metal plate *A*, which forms the back of the brush.

No. 22,381.—REUBEN SHALER, of Madison, Connecticut.—*Improved Brush*.—Patent dated December 21, 1858.—This invention consists in the mode of constructing the brush by drawing the bristles of which it is composed into a spiral groove around a cylindrical or polygonal handle, and securing them in place by means of a wire or its equivalent; also in the mode of cementing the bristles in place by which they are prevented from being drawn out, and the tension which it would be otherwise necessary to give the wire which holds them in place is much reduced.

Claim.—As a new article of manufacture, a brush, the bristles of which are secured by winding them into a spiral groove and fastening

them in the manner described, or by winding them into cement, as set forth.

No. 19,459.—CHARLES WILLIAMS, of Philadelphia, Pennsylvania.—*Improvement in Whitewash Brush Blocks*.—Patent dated February 23, 1858.—This improvement consists in providing a block for whitewash or wall brushes with broad permanent rests or gauges C C, so that all the bristles may be set with their butts in line without the use of a vise jaw as a gauge. Also in covering the blade with metal for strengthening and protecting the tie-holes, and thus rendering the block available for second using. It further consists in making the blade or tongue B with serrated surfaces and with slits F from its edge to the tie-holes E.

The inventor says: I *claim*, first, the permanent rests or gauges C C, and in combination with the same the slitted and serrated tongue B, substantially as and for the purpose set forth.

Second. Covering the blade with serrated metal, substantially as and for the purposes set forth.

Third. The slits F in the tongue, forming part of and intersecting with each tie-hole E, as and for the purposes set forth.

No. 21,092.—CHARLES D. THUM, of Philadelphia, Pennsylvania.—*Improved Case Shoe Brush*.—Patent dated August 3, 1858.—This invention consists in providing a case 2, of any requisite shape, and made of any suitable material, said box being provided with lids, as shown in the engravings, and numbered 1 and 3, forming the top and bottom of the case. The engravings show the shape of the brushes.

The inventor says: I do not claim to be the inventor of any of the parts taken separately.

But I *claim* the combination of the brushes and case as shown, the same being made of suitable material, such as wood, metal, India-rubber, or its equivalents, and of any desirable shape; the whole being arranged and combined as set forth and shown, for the purposes specified.

No. 20,447.—DAVID W. SHAW and WILLIAM A. MEGRAW, of Baltimore, Maryland.—*Improved Whitewash Brush*.—Patent dated June 1, 1858.—The nature of this invention will be understood by reference to the claim and engraving.

Claim.—The arrangement of the metallic box with two or more divisions and slotted ends, and the centre or wedged-shaped bar for dovetailing the end of the bristle, and a movable or top plate fastened by pins or screws, for the purposes specified.

No. 21,464.—STEPHEN BARNES, of New Haven, Conn., assignor to Himself, HENRY S. PARSONS, and SAMUEL ROWLAND, of said New Haven.—*Improvement in the Manufacture of Brushes*.—Patent dated September 7, 1858.—This invention consists in the employment of a movable tubular block, constructed to hold bristles in tufts as required for the manufacture of toilet brushes.

The inventor says: I do not claim to be the first to secure bristles

in a clamp, or its equivalent, while their tops are cemented together, for this has already been done.

But I *claim* the securing of the bristles in separate tufts in the manner described by the employment of the tubular block A, or its equivalent, substantially as set forth.

No. 19,069.—J. D. BURTON, of Boston, Mass.—*Improvement in the Construction of Bureaus and Washstands*.—Patent dated January 12, 1858.—In the bureau the top has dovetailed grooves cut on its under sides from the back toward the front thereof, but so as to stop short of the front and not be seen from that side. These grooves receive dovetailed tenons or tongues *a* on the top of the side pieces C. On the bottoms of the side pieces C are also cut dovetailed tongues *c*, which slide into similarly formed grooves *b* in the bottom piece B. To put together the bureau, the bottom piece B is first laid upon the floor, and the two side pieces C slipped into its grooves. The supporting pieces D are then slid into grooves cut in the side pieces from behind, and the back piece F is then slid down from the top into the vertical grooves *i i* in the side pieces; and, finally, the top piece A is run into the side pieces, and the whole is firmly united, the back holding in the pieces D, and the top preventing the back from rising.

Claim.—The combination of the dovetail grooves and tenons, by means of which a bureau or washstand may be dismembered and again united or set up in the particular order or sequence of parts, as set forth, for the purpose specified.

No. 21,220.—JAMES H. STIMPSON, of Baltimore, Md.—*Improved Butter Bucket*.—Patent dated August 17, 1858.—This invention consists in a new butter kettle made with two walls A and B, for the purpose of keeping butter and other articles for which the kettle may be used cool.

The inventor says: What I *claim* is the new article of manufacture, the same being the double walled butter bucket or kettle, constructed as set forth.

No. 20,902.—JAMES H. STIMPSON, of Baltimore, Md.—*Improved Butter Cooler*.—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim broadly the placing of the ice above the butter.

But I *claim*, as an improved article of manufacture, a butter cooler made substantially as shown and described, to wit: with an ice receptacle D suspended over the dish B in the manner and for the purposes set forth.

No. 19,103.—JUSTIN M. SMITH, of Lyme, Conn.—*Improved Butter Worker*.—Patent dated January 12, 1858.—This invention consists in having a series of oblique arms *g g i i* attached to a vertical rotating shaft C, which is fitted in an inverted conical case provided with a perforated plate at its bottom, the parts being so arranged that the butter, without being subjected to any undue action, will, as the shaft

is rotated, have all the butter-milk which it contains fully expressed from it.

The inventor says: I do not claim broadly a rotating shaft placed within a case, and provided with arms irrespective of the construction and arrangement of the arms and dependent parts, as shown, for such devices are in common use, and may be seen in various churns and clothes-washing machines.

But I *claim* the shaft C provided with arms or blades *g g i i*, arranged as shown, and placed within the inverted conical case A, suspended within a proper framing, and having a perforated plate D fitted in its bottom *b*; the whole being arranged substantially as and for the purpose set forth.

No. 21,106.—N. W. BANCROFT, of Burlington, Vt., assignor to Himself and H. M. PROCTOR, of said Burlington.—*Improved Butter Worker*.—Patent dated August 3, 1858.—This invention consists in the employment of a rotating basin and corrugated adjustable roller in connexion with a shave and guide roller, the whole being arranged to operate so that the butter may be thoroughly worked.

The inventor says: I *claim* the combination of the roller P with the roller J and share O, substantially as and for the purposes shown and described.

I also claim the combination of double-gearred shell pinion D with the basin A, adjustable shaft H, socket E I, and pinion G, substantially as shown and described, so that by turning the screw K the shaft H may be raised or lowered, and the height of the roller J altered at pleasure.

No. 21,460.—ZIBA WILLIAMS, of Ithaca, N. Y.—*Improved Butter Worker*.—Patent dated September 7, 1858.—The operation of this apparatus is as follows: The ladle is so arranged as to exert great power in crushing the butter in cold weather, as well as the gentlest force. The trough being open, there is the freest access to the butter. The motion of the ladle reciprocating from side to side extracts the milk, and yet does not crush the butter too much.

Claim.—The combination of a trough and a ladle having parallelism to the axis thereof for the purpose of working butter, when the same are constructed and arranged in the manner described.

No. 20,054.—ADAM FISCHER, of Dayton, Ohio.—*Improved Cabbage Cutter*.—Patent dated April 27, 1858.—In using this machine the cabbage to be cut is placed in the upper section of the cylinder and held stationary by a stop board while being cut to any desired degree of thickness by the knives, which are caused to revolve rapidly by means of a crank and two bevel wheels, the cut cabbage escaping in the lower section of the cylinder, and discharged automatically into a receiver.

The inventor says: I do not claim a horizontally revolving disk set with knives and gauge plates; neither do I claim the partitioned hopper or upper section C; nor do I claim broadly controlling the fineness or coarseness of the cut of knives.

But I *claim* the cabbage cutter specified, where all its parts are constructed and arranged for united operation, substantially as and for the purposes set forth.

No. 20,209.—A. S. LYMAN, of New York, N. Y.—*Improvement in Cans for Preserving Food*.—Patent dated May 11, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

Claim.—In cans for preserving food the combination of the reservoir or filter of suitable material, with a can having an arrangement for discharging its contents in such a manner that, whenever any food is drawn off, air or gas deprived of the primary cause of decomposition shall supply its place, substantially as and for the purposes specified.

No. 20,722.—AZEL STORRS LYMAN, of New York, N. Y.—*Improvement in Cans for Preserving Food, &c.*—Patent dated June 29, 1858.—F is the float, made of such size that it shall fall freely and without friction on the sides of the can, and of such weight that it shall sink about two-thirds of its depth into the liquid to be preserved. *t* is a tube, forming the handle of the float, and from which the air under the float escapes. *v* is a valve for drawing off the material from the can.

Claim.—The employment of the float, surrounded by the protecting liquid, in combination with a vessel having an arrangement for discharging its contents, substantially as described, for the purposes specified.

No. 22,436.—W. W. LYMAN, of West Meriden, Conn.—*Improvement in Fruit Cans*.—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—In combination with the groove for receiving and holding the packing, and the flange *m* on the cover, fitting into said groove and against the packing, the sleeve C with its cam slots, and the studs on the neck of the can, for drawing the flange of the cover tight down on to the packing without crimping it, substantially in the manner specified.

No. 19,063.—EZRA J. WARNER, of Waterbury, Conn., assignor to Himself, WILLIAM H. WARNER, and RUFUS E. HITCHCOCK, of Waterbury, Conn.—*Instrument for Opening Cans*.—Patent dated January 5, 1858.—The looped bar *c* is made of steel, or any other suitable material, and attached to the piercer bar B near its end by a fulcrum or joint pin, as shown at *c*, so that it may readily swing or rock from the position shown in fig. 1 to that shown in fig. 2.

Claim.—The combination of the curved cutter *a* with the looped bar *c*, when constructed and made to operate substantially as described.

No. 20,203.—EDWIN W. GILMORE, of North Easton, Mass.—*Improvement in Preserve Cans*.—Patent dated May 11, 1858.—A bar lever B is arranged across the cover D and top of the can, formed

with journals *c c*, to extend through stirrups *C C*. The bar lever is formed with an arm *d*, and is furnished with a cam or projection *e*, so arranged with respect to the arm *d* that, while the latter is being turned down from a vertical to a horizontal position, the said cam shall force the cover *D* firmly down upon its seat or rubber annulas, so as to effect an air-tight sealing of the can.

Claim.—The arrangement of the arm and the cam and the bar *B*, whereby the cam is not only made to operate to aid in strengthening the bar when supported as described, but the arm is enabled to operate as a stop to maintain the cam in place while forcing down the cover, as set forth.

No. 20,485.—H. G. DAYTON, of Maysville, Ky.—*Improvement in Preserve Cans.*—Patent dated June 8, 1858.—This invention consists in the employment of an India-rubber band *B* attached permanently to the cover *C* in such a manner as to enable it to lap over the sides of the can and cover the joint, and keep the latter closed tightly by the shrinking consequent upon its elasticity. It further consists in the employment of an elastic metal clasp *D* around the India-rubber band to secure it in place upon the can.

Claim.—The employment of the rubber band in combination with a metal cover and metal clamp, substantially as set forth.

No. 21,078.—EMMONS MANLEY, of Marion, N. Y.—*Improvement in Preserve Cans.*—Patent dated August 3, 1858.—This invention consists in forming a depression around the edge of the mouth of the can, and fitting the mouth with a stopper *C* the form of a cup, whose exterior combines with the depression round the mouth to form a channel to receive the sealing composition, and whose interior serves to receive cold water to cool and cause the cement to set after the closing and sealing of the can, and to receive the hot water to melt and soften the cement, so that the stopper may be removed when necessary to open the can.

The inventor says: I do not claim broadly the formation of a wax space between the lip and the stopper.

But I *claim* the combination of the depression around the mouth of the can and the cup-formed stopper, constructed and operating substantially as described.

No. 22,351.—P. H. COLTON, of Demopolis, Ala.—*Improvement in Preserve Cans.*—Patent dated December 21, 1858.—This invention consists in the application of fastenings to confine the cover on the can against the pressure of steam that is generated to expel the air until condensation takes place and the sealing composition becomes sufficiently hard to retain the cover in its place. It also consists in forming a recess in the lower part of the neck of the can, and making the rim of the cap to extend down some distance over said recess, for the purpose of preventing the sealing composition becoming detached from the sides of the channel, and the cap being thereby unsealed.

Claim.—In combination with the channel *C* outside of the neck of the can, the employment of a recess *e* in the neck, and the extension

of the rim of the cap over such recess, substantially as and for the purpose specified.

No. 21,348.—W. W. LYMAN, of West Meriden, Conn.—*Improved Method of Sealing Preserve Cans*.—Patent dated August 30, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* exhausting and sealing fruit jars and cans, or other similar vessels, by means of the tube C, the cement e, and opening c, and an exhausting apparatus D, substantially as described, by which means the operation is rendered very easy, simple, and effective, and the closing of the air vent accomplished by the same device through or by which the air is drawn from the can.

No. 22,247.—ALLEN TAYLOR, of Baltimore Maryland.—*Improvement in Sealing Preserve Cans*.—Patent dated December 7, 1858.—The claim and engraving explain the nature of this invention.

Claim.—The forming of the gutter-shaped rim E which supports the sealing cement of a porous or textile substance, said substance being applied to the downwardly bent edge of the cover, and forming with said edge a V-shaped gutter, in which the cement when melted will be confined, yet allowed to come in contact with the metal surface, and thus seal the cover to the can with a small expenditure of cement, and in such a manner that the cover can be readily unsealed without cutting up and wasting the cement, as when other modes of sealing are adopted, substantially as set forth.

No. 19,465.—JOSEPH HARRIS, jr., of Roxbury, Massachusetts, and DANIEL HOLMES, of Chelsea, Massachusetts, assignor to DANIEL HOLMES, aforesaid.—*Improved Carpet-Beating Machine*.—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: We *claim* the use of the elastic whips a connected together at their ends by the cord g, in the manner and for the purpose substantially as described.

Second. We claim placing an elastic cushion L in front of the carpet for the whips to strike on, in the manner and for the purpose substantially as described.

Third. We claim the vibrating beaters f for beating the opposite surface of the carpet, arranged and operating substantially as specified.

No. 21,211.—AUGUSTINE W. NONEY, of Bridgeport, Connecticut.—*Improved Carpet Cleaner*.—Patent dated August 17, 1858.—A A are the sides of the box; B B¹ the travelling wheels, one on each side of the box, connecting by belts or cords with the brush pulleys E E¹, which are shown on the axis of the brush G; D is the dust pan; H H¹ are the flexible flaps or drags; L L¹ L L¹ are the slotted ears, where, by means of set screws, the shields or guides J K may be adjusted together with the flaps.

The inventor says: I do not claim the revolving cylinder brush, nor the dust pan, nor the enclosing box, nor the combination of the three, all these having been long known and used.

But I *claim* the combination and arrangement of said flaps or drags, and the said shields with the revolving cylinder brush, box, and dust pan, in the manner described, as and for the purpose specified.

No. 19,164.—CHARLES A. WAKEFIELD, of Dalton, Massachusetts.—*Improved Carpet Fastener*.—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A carpet fastener composed of metal plates bent so as to form parallel sides or plates *a b* provided with teeth *c*, and each perforated with a hole *d*, the plates being fitted and secured on the edge of the carpet, and used in connexion with the tacks *e*, or their equivalents, driven in the floor, substantially as shown for the purpose set forth.

No. 20,341.—WARREN FILKINS, of Lancaster, New York.—*Improved Carpet Fastener*.—Patent dated May 25, 1858.—The nature of this invention consists in the combination of a swinging slotted cap *a*, with a plate *e*, and spur *b*, the whole to be used as a carpet fastener.

Claim.—The arrangement of the horizontal swinging slotted cap *a* with the plate *e* and the spur *b*, in the manner specified and for the purpose set forth.

No. 21,325.—MORRIS DEWEY and IRA PHILLIPS, of Claredon, New York.—*Improved Carpet Fastener*.—Patent dated August 31, 1858.—The nature of this invention consists in the construction of a pin about one inch in length, of proper size, pointed at both ends, or pointed at one end and flattened at the other, as seen in the engraving.

Claim.—The pin and the set, as described, combined and arranged for fastening carpets to floors in the manner specified.

No. 21,365.—JOSEPH REYNOLDS, of New Britain, Connecticut.—*Improved Carpet Fastener*.—Patent dated August 31, 1858.—This improved carpet fastener is constructed of suitable metal in form similar to the plan in figure 1, A B C, made with one, two, or more points; the single points are intended to go into the corners of the room; the double pointed ones are for both sides of the room.

Claim.—The hook and plate in one piece, as described, as a new article of manufacture, substantially as set forth.

No. 22,354.—RICHARD DECHARMS, of Philadelphia, Pennsylvania.—*Improved Carpet Fastener*.—Patent dated December 21, 1858.—In this improvement stair rods and tacks are dispensed with in putting down carpets, screws only being used in the eyelet holes.

Claim.—The described new article of manufacture, to wit: an eyeletted carpet or floor cover binding, for the purposes set forth.

No. 19,882.—HORACE THAYER, of Warsaw, New York.—*Improved Carpet Holder*.—Patent dated April 6, 1858.—The nature of this invention consists in making a carpet holder, which is driven into holes bored in the floor to hold down carpets firmly, with a clasp and spur at the top of said fastener, thus dispensing with the use of nails.

The inventor says: I do not claim as new the parts composing my device.

But I *claim* the arrangement of the spring-tube clasp and slide forming a carpet holder, constructed and operated substantially as described.

No. 19,230.—HERMANN BLAU, of Washington, D. C.—*Improved Carpet Stretcher*.—Patent dated February 2, 1858.—This improved carpet stretcher is operated in the following manner: The teeth of the fork *g* having been inserted in the edge of a carpet, the outer end of one of the bars *a* or *b*, or of an elongated bar composed of both of them united, is placed against the washboard, or some other suitable support, in an opposite portion of the room, and then the inner end of the lever *C* is inserted in one of the notches in said ratchet bar, when a small amount of downward force at the angle of junction of the ratchet bar and lever is applied.

The inventor says: I am aware that a carpet fork has been combined with one end of one of the legs of a pair of permanently-hinged and non-adjustable levers.

I am also aware that the legs of a carpet stretcher have been combined with each other by means of a movable pin and a series of holes, and therefore I do not claim such articles as my inventions.

But I *claim* my double extensible carpet stretcher, composed of the combined notched bars *a* and *b* and the fork-armed ratchet lever *c*, combined with each other, and operating substantially as set forth.

No. 19,596.—JOSEPH WARNER, of New Britain, Connecticut.—*Improved Carpet Stretcher*.—Patent dated March 9, 1858.—This is a lever *A* having teeth *d* pivoted to a plate *B* provided with spurs *e*, the parts being arranged so that the implement may be readily secured to the floor and connected to the edge of the carpet in such a way that, as the latter is tacked to the floor, it may be stretched with the greatest facility.

Claim.—The lever *A*, of any proper form or shape, provided at one end with teeth *d*, and pivoted to a plate *B* having spurs *e* attached, substantially as and for the purpose set forth.

No. 21,303.—HENRY RIDLEY, of Hartford, Connecticut, assignor to S. P. THATCHER and WALTER STILLMAN, of said Hartford.—*Improved Carpet Stretcher*.—Patent dated August 24, 1858.—In using this improved carpet stretcher, it is first secured to the floor, and the carpet is caught in the clamps at *K*, when the machine is wound up until the carpet is sufficiently stretched and tacked, then the machine is removed to another point, and so on until the work is done.

Claim.—The construction and arrangement of the clamps *I*, straps *H*, wheel *C*, ratchet *E*, and pawl *G*, in the frame-work *A B*, substantially in the manner as and for the purpose described.

No. 21,654.—W. C. CONANT, of New York, N. Y.—*Improved Carpet Stretcher*.—Patent dated October 5, 1858.—This invention consists in combining, with the other necessary parts of a carpet

stretcher, the clamp for grasping the carpet, by which the danger of injury is avoided, and at the same time present its edge in a straight, smooth form in suitable shape for nailing.

Claim.—A carpet stretcher made by combining the clamp and wedge D and E with the other necessary parts of a carpet stretcher, as set forth.

No. 21,233.—HIRAM H. HERRICK, of East Boston, Massachusetts, assignor to LEA FAYETTE CULVER, of said East Boston.—*Improved Carpet Sweeper.*—Patent dated August 17, 1858.—This invention has reference to certain improvements in machines for sweeping floors and carpets, in which the rotation of the brush is effected by the movement of the box which contains it across the floor.

The inventor says: I *claim*, 1st, inclining or grooving the brush shaft, as at *o* and *k*, as described, for the purpose specified.

2d. I claim protecting the bearings from dust by means of the

3d. I claim the peculiar construction of the dust pan, with its plates *l m* and *n* operating in the manner described for the purpose specified.

spring lip *5*, in combination with the screen *t*, operating as set forth for the purpose specified.

4th. I claim dividing the brush in the centre, and connecting each half with one of the driving wheels, as set forth, in combination with the method described of pivoting the inner ends to a suspended support, as described, whereby the continuity of the brush is not interrupted, as set forth.

No. 21,451.—REUBEN SHALER, of Madison, Connecticut.—*Improved Carpet Sweeper.*—Patent dated September 7, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, 1st. The combination, in a machine for sweeping carpets, of a brush, the bristles of which are set at an angle of about forty-five degrees from a radial line passing directly outward from axis, constructed substantially as described with a traction roller, substantially as and for the purposes set forth.

2d. The construction of the traction roller of a sweeping machine in the manner described—that is to say, by winding a spiral flange of India-rubber, or other flexible and adhesive substance, around a cylinder, as set forth, by which a very powerful adhesive traction of said roller is insured; and the roller is much more cheaply manufactured than an equally efficient one could otherwise be.

No. 21,660.—JACOB EDSON, of Boston, Mass.—*Improved Carpet Sweeper.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the arrangement described of hanging the brush at or near one of its journals in a bridle, and attaching the opposite end of the said bridle at a point on the case of the machine, between the centre of the driving-wheel and the other journal of the brush, whereby the machine is made self-adjusting, so as to adapt itself to heavy or light sweeping.

Second. Attaching the handle of the machine to the bridle *e e*, at a

point near the driving-wheel, instead of in the centre of the machine, as set forth, and for the purpose specified.

Third. Forming the entire machine of a tapering shape, as described, whereby the brush can work successfully in the corner of an apartment to be swept.

Fourth. The combination of the revolving brush, having the bristles arranged spirally thereon, with the tapering-shaped dirt receiver, so as to sweep and convey the dirt into the larger end of the receptacle.

Fifth. Combining in one the door for removing the dirt and the dirt receiver, by constructing it as described.

No. 21,673.—DANIEL HARRIS, of Boston, Mass.—*Improved Carpet Sweeper*.—Patent dated October 5, 1858.—This invention has reference to that description of carpet or floor sweepers in which a revolving brush, set in motion by the travel of apparatus across the floor, is made to take up and deposit the sweepings in a case covering the brush. It has for its object important improvements connected with the working or transmission of motion to the brush, and connected with the construction of the case for preventing the return of the sweepings by the brush, and facilitating the removal of them.

Claim.—The arrangement of a revolving brush driven by means of a padded driving-wheel from one side only, within a semi-cylindrical casing provided with stationary pockets and deflectors in front and rear of the said brush, substantially in the manner and for the purpose of acting together as described.

No. 21,701.—STEPHEN P. ROWELL, of Reading, Mass.—*Improved Carpet Stretcher*.—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, in combination with the brush and its main operating gear, devices substantially as described, for adjusting the brush and maintaining its axis at the same or at its proper distance from the axis of the gear, in order to maintain the gear in engagement with its pinion, as specified.

I also claim the application of the rear dust receptacle to the frame, so as to be capable of being swung or turned upward and outward therefrom, substantially in the manner and for the discharge of dust as specified.

No. 21,815.—AUGUSTUS C. CARY, of Ipswich, Mass.—*Improved Carpet Sweeper*.—Patent dated October 19, 1858.—This machine is operated as follows: It is pushed in the direction of its arrow over the carpet to be swept by the handle D, and as the brush is revolved rapidly in contact with the carpet, the dust is brushed up over the front edge 4 of the dust pan G and is collected in it. The dust pan may be afterwards removed by simply slipping it out from the staples m, and the dust be removed from it.

The inventor says: I *claim*, first, placing the revolving brush at the extreme front of the box A, and hanging it in adjustable bearings H, in the manner substantially as set forth.

Second. I claim the deflector I, operating substantially as described for the purpose specified.

Third. I claim the combination of the revolving brush, the double pulley *a b*, or its equivalent, and the roll B, when so arranged that the brush may be disconnected from the roll B and be operated by hand, substantially in the manner and for the purpose specified.

No. 19,824.—EDMUND BIGELOW, of Springfield, Mass.—*Improved Syrup Casters*.—Patent dated April 6, 1858.—The mode of operating this caster is as follows: The several syrup apartments or reservoirs A A having been filled, each with its appropriate syrup, the syrup has flowed through pipe G and filled the register B. The rod D being then pressed down by the hand, valve C is brought firmly into its seat P, closing the port O, and stopping the flow of the syrup into the register. By the same movement of the rod D the valve F is opened, and the syrup, already in the register, flows into the glass. On removing the hand from rod D, the spiral spring J forces the rod D back to its original position, bringing valve F to a bearing and opening the port O, and the register again instantly fills with syrup, and may again be emptied by removing the pressure on rod D.

Claim.—The described measuring faucet or register in combination with the revolving syrup fountain or reservoir.

No. 20,376.—AUSTIN S. SMITH, of Lawrence, Mass.—*Combined Rocking Chair and Cradle*—Patent dated May 25, 1858.—This chair is provided with rockers attached in such a way that they can be turned from one leg to another, and this combined with a movable back and foot rest forms a convenient cradle from the chair.

The inventor says: I do not claim, separately, the adjustable back nor the adjustable foot rest, for they have been used and arranged in various ways.

But I *claim* the adjustable back Band foot rest F, connected by the levers G, and arranged relatively with the seat C, as shown, and used in connexion with the rockers H H, connected to the legs *a* by the swivel sockets *j*; the whole being constructed and arranged substantially as and for the purpose set forth.

No. 22,297.—R. MCG. LITHE, W. J. ALSTON, and LORENZO W. TRUE, of Williamson County, Tenn.—*Improved Folding Chair*.—Patent dated December 14, 1858.—This chair in its general form resembles the ordinary arm chair, with a seat A supported by four legs *a a*¹ connected with each other by cross bars *b b*¹, both at the sides and at the front and back, and provided with a back B and arms C. The back is connected to the seat by a hinge joint *d*, and also by the arms; the upper leaf of the hinge is made fast to the back, and the lower leaf attached to the seat by a sliding bolt *e*, the withdrawing of which releases the hinge from the seat.

The inventors say: We *claim*, first, the arrangement of the arms and also of the back, substantially as described, so that the back retains the arms in place when folded.

Second. The arrangement of the legs substantially as described, so that one set of legs folds over and retains the other set in place.

Third. The combination of the slotted bolt with the socket plate and spring stop arranged substantially as described for connecting the arms with the seats.

Fourth. In combination with the side bars we claim the screw strap or its equivalent, for connecting the bars with the legs, so that when folded between the legs one is raised and the other depressed for the purpose set forth.

Fifth. Connecting the legs with the seat by means of a socket joint arranged substantially as described, so that each pair of legs can be withdrawn from their sockets and folded down without being disconnected from each other or from the seat for the purpose set forth.

No. 20,198.—AUGUSTUS ELIAERS, of Boston, Mass.—*Improved Reclining Chair*.—Patent dated May 11, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the general arrangement of the chair described, whereby the back, foot-rest, &c., are sustained and actuated as specified, and the foot-rest made adjustable and locked in any desired position as set forth.

I also claim the combination of the hinged rails *p p*, sliding arms *s s*, and mortises to receive the rails *p p*, or in lieu of the rails entering the mortises in the said combination, the arm *g*¹ attached to the back and turning upon a pivot in the grooved or mortised sliding arm, whereby I am enabled to obtain a very long arm, as set forth.

No. 22,145.—AMOS E. KENDALL and PETER K. KEYES, of New York, N. Y., assignors to Themselves and CALVIN W. ELTON, of said New York.—*Improved Reclining Chair*.—Patent dated November 23, 1858.—The nature of this invention consists in an arrangement of means for fixing the back of a chair at any degree of inclination and holding it firmly in the desired position.

Claim.—In combination with the sawing post E, jointed arm D, and back C, the employment of a serrated segment F and fastening *e*, constructed and operating substantially as set forth and for the purposes specified.

No. 21,320.—DAVID BUZZELL, of Charlestown, Mass.—*Improved Recumbent Chair*.—Patent dated August 31, 1858.—The object had in view in the invention of this chair has been to enable a person while sitting in it to easily operate the leg-rest and the back by a slight pressure against the foot-rest of the leg-rest. By pressing the feet against the foot-rest, and at the same time lifting his legs, the said person can with great ease not only raise the leg-rest up to any desired inclination to the horizon, but will at the same time correspondingly decline the back, and these parts will easily maintain any such position as long as the same may be agreeable to the sitter. A little downward pressure of the legs on the leg-rest will suffice to depress the same and bring the back forward. The seat moves with the back and the

leg-rest and contributes by the weight of the sitter's body to facilitate the operation of moving the back and the leg-rest.

Claim.—The arrangement and application of a lever E and notched cams F G to either or both sides of the seat frame A, and to the back B and leg-rest D, substantially as explained and as represented in the drawings.

No. 19,352.—THOMAS W. CURRIER, of Lawrence, Massachusetts.—*Improvement in Rocking Chairs.*—Patent dated February 16, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The above described mode of combining rockers F F with the chair-stand A and the recumbent back B, viz: by levers D D and arms E E, arranged and connected with the back B, the arm-rests C C, and the chair-stand A, and jointed to the rockers, substantially in the manner described, so as to enable a person, by laying hold of and moving the back, either to cause the chair to be supported on its legs or on its rockers, as occasion may require.

No. 20,863.—ISAAC P. CARRIER, of South Glastonbury, Connecticut.—*Improved Rocking Chair.*—Patent dated July 13, 1858.—The nature of this improvement consists in constructing the chair so that the seat will oscillate, and a free and easy motion be produced by the aid of reaction springs G.

Claim.—The arrangement of the frame or arms E, rod F, springs, stud H, and the pin c, holes C, substantially in the manner and for the purposes as described.

No. 19,343.—LEOPOLD R. BREISACH, of New York, N. Y.—*Improved Rotary Blast-Producing Chair.*—Patent dated February 16, 1858.—This improvement consists in the combination of a portable rotary chair A B, with double-acting side bellows C C, and in the application of a mechanism by which a constant current of air can be obtained.

The inventor says: I do not claim the arrangement of stationary seats with one pair of bellows, with one foot to be worked upon by a kind of pump handle, in order to produce a current of air.

But I *claim* the combination of the portable rotary chairs, with double-acting two pairs of side bellows, and the mechanism described, by which, with little muscular exertion, constant currents of air are obtained for cooling the operator.

No. 22,419.—PATRICK GALLAHER, of Pleasant Unity, Pennsylvania.—*Improved Spring Bottom for Chairs and Other Seats.*—Patent dated December 28, 1858.—The nature of this invention consists in making a spring bottom for seats of any kind out of a spring plate of steel, or cold rolled iron, having the proper strength and elasticity, when said plate constitutes the seat and spring both within itself.

Claim.—Making the bottoms of chairs, or other seats, of spring plate metal, so that when placed loosely upon the frame said plates shall be both a bottom and a spring, substantially as set forth.

No. 21,409.—JOHN R. CANNON, of New Albany, Indiana.—*Improved Cane Seat for Chairs.*—Patent dated September 7, 1858.—The nature

of this invention consists in the use of a double rattan stuffed bottom. The frame of this chair differs very little from that of the ordinary chair. The only peculiarity in the construction of this frame is, that the stretchers around which the bottom passes are always made round, so as to prevent breaking or cutting the rattan. In constructing the bottom the rattan is plaited closely and passed around the stretchers, and joining it again so as to form a double bottom; between these two bottoms any kind of stuffing is inserted, or any kind of suitable spring.

Claim.—The manufacture of chair bottoms substantially in the manner and for the purpose specified.

No. 19,582.—CHARLES ROBINSON, of Cambridgeport, Mass.—*Improvement in the Spring-Seats of Chairs, Sofas, &c.*—Patent dated March 9, 1858.—When the seat of the chair is unoccupied the elasticity of the band or bands D draws the arms C C toward each other and keeps the inner edges of the supporting blocks B B raised firmly against the middle of the cushion. But if pressure is applied on the top of the chair-seat the inner adjoining edges of the supporting blocks are forced downward, and the elastic band or bands stretched.

Claim.—The hinged supporting blocks B B and their projecting arms C C, connected by a band or bands D, and operating substantially as and for the purpose specified.

No. 20,663.—HENRY A. ROE, of West Andover, Ohio.—*Improved Cheese Vat.*—Patent dated June 22, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* attaching the milk vat to the casing by a hinge joint, or its equivalent, and so arranging the whey-gate that the weight of the milk vat and its contents will act as a lever, in keeping the cellar and packing C in close contact with the inner surface of the water chamber.

I also claim, in combination therewith, the short legs E¹ and the jointed legs E², all operating in the manner and for the several purposes set forth.

No. 19,476.—JOSEPH BAKER, of Washington county, D. C.—*Machine for Stoning Cherries.*—Patent dated March 2, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I *claim* the perforator *h*, by which the stone is extracted from the pulp of the fruit, and the bevelled feeding slide O.

I also claim the combination of perforators *h*, the bent lever P, and feeding slide O, operated and arranged in relation to each other as described, and for the purpose specified.

No. 22,464.—WILLIAM P. UHLINGER, of Philadelphia, Pa.—*Improved Closet for Sewing Machines.*—Patent dated December 28, 1858.—This invention consists in an improved construction of the stands for sewing machines, in which the machine is attached to a movable platform or table, the latter being so connected with suitable mechanical devices that it may, when the machine is required for operation, be

elevated to the top of the stand, while by lowering the platform into the interior of the same the machine is, when standing idle, not only removed from sight and entirely protected from injury, but the stand itself is, upon shutting the lid, transformed into an ornamental piece of furniture.

Claim.—Combining the sewing machine platform G with the lid B of the closet, that the opening and shutting of said lid shall operate the platform G, substantially in the manner and for the purpose set forth.

No. 19,772.—JAMES J. HAMILTON, of New Castle, Indiana.—*Improved Clothes Dryer.*—Patent dated March 30, 1858.—The nature of this invention consists in an upright post 21, to which is attached four arms 1 2 3 4, which are attached to the post in such a manner that they may be suspended in a horizontal position, forming a right angle with said post; a cord is run through the arms, upon which the clothes may be hung.

Claim.—The application of the roller and pulleys to the arms and the folding of the arms to the post.

No. 20,964.—S. H. TIFT, of Morrisville, Vermont.—*Improved Clothes Dryer.*—Patent dated July 20, 1858.—The nature of this invention consists in so constructing a machine that the arms will always be properly held in position, under all circumstances of contraction or expansion of the cords, while the frame will be at liberty to turn upon the shaft. This result is arrived at by combining with other parts of the dryer a sliding collar with a ratchet catch, capable of being secured to the shaft at any point, and affording a bearing for the sliding head of the folding frame.

I disclaim the mere combination of a sliding hub with expanding arms, as such does not constitute my invention.

But I *claim* the combination of shaft A, hubs B and C, arms D, and braces E, with the sliding collar F and catch G, the whole constructed, arranged and operating as and for the purpose set forth.

No. 21,035.—STEPHEN H. TIFT, of Morrisville, Vermont.—*Improved Clothes Dryer.*—Patent dated July 27, 1858.—This invention consists in the arrangement of the arms, when made flexible, fast in the head of the standard, and considerably oblique to a horizontal plane, in combination with the arrangement of the standard which supports the arms, so that its lower end nearly touches the floor, in a socket which is mounted upon flexible obliquely set legs.

Claim.—The arrangement of the light yielding bars A A A A A, cords or ropes D D D D, standard B, and light yielding legs C C C, substantially as and for the purposes set forth.

No. 21,639.—E. G. GIBSON, of Owego, New York, assignor to H. G. FINKHAM, of said Owego.—*Improved Clothes Dryer.*—Patent dated September 28, 1858.—The object of this invention is to simplify the construction of revolving clothes dryers and, at the same time, obtain

a double device; one that may be readily kept in repair and constructed at comparatively small cost.

The box head B rests on the cap or plate, and is allowed to turn freely thereon; and the arms *c* are retained at a suitable height by a pin *j*^x which passes through the post, and on which the box D rests.

Claim.—I do not claim, broadly, a rising and falling frame, nor the lifting thereof by windlass and cords.

But I *claim* the arrangement of the square or box head B between the pieces *a*¹ *a*¹ of the arms *c c*, as and for the purposes shown and described.

No. 21,626.—EMMA T. PORTER, of Washington, District of Columbia.—*Improved Clothes Dryer.*—Patent dated September 28, 1858.—The nature of this invention consists in a light adjustable frame, peculiarly adapted to the drying of clothes by a stove fire, and that, when not in use, may be closed or adjusted so as to occupy but little space, and may be conveniently hung up against the wall of a room.

Claim.—The combination of the adjustable frame and supporting braces with the pivoted stand or foot-piece, substantially as and for the purpose specified.

No. 20,868.—OLONZO R. DINSMOOR, of Auburn, N. H.—*Improved Clothes Drying Apparatus.*—Patent dated July 13, 1858.—In the engravings, A denotes a small building, or shed, carrying within it a large grooved wheel B, such being arranged therein and supported by a post C. The grooved wheel is made about five inches in diameter.

The endless line carries one or more travellers K, each of which consists of a block *c* carrying a pulley *d*, within a space *e* formed in and through the block.

The inventor says: I *claim* the combination of the endless clothes-line, the sheltering shed or building, and the stretching apparatus, the whole being made to operate substantially as specified.

I also claim combining one or more travellers K with the endless clothes-line applied to a building, and a stretching apparatus, and constructed so as to operate essentially as described.

No. 20,579.—ENOS PAGE, of Streetsborough, Ohio.—*Improved Clothes Frame.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that folding clothes racks and frames have been known and used.

But I *claim* the combined sections I J K, composed of the vertical jointed and folding standards, in combination with the adjustable cross-bars, when arranged as set forth for the purpose described.

No. 22,398.—WILLIAM HATHAWAY, of Worcester, Mass., assignor to WILLIAM G. MAYNARD, of said Worcester.—*Improved Clothes Frame.*—Patent dated December 21, 1858.—This frame consists of a central post A supported by the foot block B, with a series of outer posts D connected to the center by cross-bars E. To the central post is fitted a series of collars *a* at regular intervals, with projecting radial

branches *b* to which the inner ends of the cross-bars are pivoted, forming a hinge joint which allows the cross-bar to be moved up and down.

Claim.—Arranging the centre of motion of the cross-bars, substantially as described, so that the centre of motion of the outer end of the cross-bar, when the frame is closed, will be over or within the centre of motion of the inner end of the cross-bar, for the purpose set forth.

No. 20,669.—CHESTER STONE, of Ravenna, Ohio.—*Improved Frame for Drying Clothes.*—Patent dated June 22, 1858.—By crowding upon the wedge *F* the head *B* is pushed down the standard *A*, this spreads the lower ends of the arms *C* and makes the cords *G H I* taut. In this case the standard *A* is drawn upward, so that the weight of the frame rests upon the ends of the arms *C*.

Claim.—The described manner of constructing a clothes frame, consisting of the standard *A*, head *B*, arms *C*, braces *D*, and cords *G H I*, when arranged and operating in the manner and for the purpose specified.

No. 21,231.—E. CULVER, Jr., of Shelburne Falls, Mass., assignor to Himself and S. M. BLACKWELL, of said Shelburne Falls.—*Improved Clothes Horse.*—Patent dated August 17, 1858.—*A* is a post, or stand supported on feet *a*. To this post are attached and pivoted at *c* the rods *b*. A vertical rod *d* is placed over the ends of the rods *b* and the screws *c* pass through both rods into the post *A*; this binds and steadies the rods *b*, so that they may be vibrated on their pivots *c*, in a vertical plane parallel to the inclined face of the post to which they are attached.

The inventor says: I do not claim joining the rods *b* to standards, so that they may be folded up or spread out.

But I *claim* the combination of the panels *B*, panels *C*, and connecting links *ll'*, with a self-supporting pedestal *A*, the whole arranged to operate substantially as described for the purpose set forth.

No. 22,435.—TRISTRAM S. LEWIS, of Kendall's Mills, Me.—*Improved Clothes Horse.*—Patent dated December 28, 1858.—The arrangement of the four spring catches is such that the spring *K*, while in operation to press the horse open, and to maintain it in an extended state when unfolded, will also operate to maintain all the catches in engagement with their respective slats.

The inventor says: When the posts *A B* are hinged together, and the four folding sets of slats are applied to them and arranged on them as described, I *claim* the arrangement of the spring *k* and the two sets of spring catches *f g h i*, in order that the said spring may perform at one and the same time the two functions as specified.

No. 21,818.—BENJAMIN CHESNUT, of Philadelphia, Pa.—*Improved Post for Clothes Lines.*—Patent dated October 19, 1858.—This invention consists in arranging a clothes post to slide between brackets attached to a board, which may be secured to the wall or fence of the yard or garden selected for drying clothes. The post is finished with

inclined teeth on one side, so as to be retained at any desired altitude by a pawl hung to the board, and in the brackets as well as in the post near its lower end are rollers, which render the raising and lowering of the posts a matter of ease.

Claim.—The post B, with its row of inclined teeth, and its roller *m* and pawl *e*, and the brackets *a* and *a*¹, with their rollers, when the several parts are combined and arranged substantially as and for the purpose set forth.

No. 20,470.—EDWIN L. HAGAR, of Frankfort, N. Y., assignor to Himself and T. D. AYLSWORTH, of Ilion, N. Y.—*Improved Machine for Wringing Clothes.*—Patent dated June 1, 1858.—The nature of this invention consists in providing a self-acting clasp B, which is attached to the rim or edge of the tub A, which receives and holds one end of the article to be wrung, while the two hands, twisting in one direction, the article is wrung to great advantage.

Claim.—The clasp B, and its attachment and adjustment to the tub as described and shown, the whole being arranged and operating substantially in the manner and for the purpose set forth.

No. 22,451.—EZRA POLLARD, of Albany, N. Y., assignor to Himself and B. W. SEELEY, of New York, N. Y.—*Pestles for Cleansing Clothes.*—Patent dated December 28, 1858.—A is a circular head or stock of requisite thickness, and B represents a series of tubes, which are fitted at one end in the head or stock A, parallel with each other, and in planes parallel with the handles C. The handle as well as the head or stock and tubes may be constructed of wood, and the tubes may be of any suitable dimensions, the proportion of the above named parts may be about as shown in figure 1.

The inventor says: I *claim* this invention as a new article of manufacture; a clothes pounder or pestle, composed of a stock A, handle C, and tubes B, and openings *a*, as shown and described.

No. 20,364.—DEXTER PIERCE, of Sunapee, N. C.—*Improved Clothes Pin.*—Patent dated May 25, 1858.—The limbs of this improved pin, as will be seen at "A" "A" retain an equality of thickness until near the end of the slit, when it slightly enlarges to prevent the breaking off of the one limb or the other, as would be the result if the pin were made entirely straight on the outside. By placing the thumb and forefinger on the hollows marked "B" "B," the swell on each side of the hollows serves to tighten the grasp of the holder, and tighten the pin.

The inventor says: I *claim* as a new article of manufacture, to wit, a clothes pin, all the parts of which are constructed substantially as set forth.

No. 21,029.—ISAAC A. SERGEANT, of Springfield, Ohio.—*Improved Clothes Wringer.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the yoke B, provided with a suitable hitching arm, the said yoke being adapted to be temporarily

attached to a wash tub, or readily disconnected therefrom, as explained, and employed as a bearing for a rotary clamp for wringing clothes.

Second. In the described connexion with the yoke B, I claim the movable clamp H I J K, and pawl and dog P O, by means of which the said clamp is retained within the yoke, or may be readily removed therefrom at will to be cleansed or dried.

Third. In the described connexion with a rotary clamp for wringing clothes I claim the hinged and yielding hitching arm E, for the purposes explained.

No. 21,066.—JOHN DENLEY and THOMAS H. HEBERLING, of Warsaw, Illinois.—*Improved Apparatus for Making Coffee*.—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim the process of scalding coffee and boiling it afterwards by additional heat, or forcing water through ground coffee resting in a strainer.

Neither do we claim the application of a heater to a vessel containing coffee.

But we *claim*, first, the apparatus, substantially as described, for the forcible expulsion of the water through the bed of the coffee, resting on the strainer *i* in the mouth of the inverted vessel *a*, by the pressure of steam in the upper part thereof, produced when the red-hot heater *e* is inserted in the central tube *d*.

Second. We claim the cup *l*, for retaining a part of the water around the foot of the heater tube *d*, and the tin arch *m*, for the purpose of preventing the joint at the end of the heater tube from becoming unsoldered when the rest of the water is driven from the interior of the vessel, as described.

No. 19,827.—ROBERT BROWN, of Ashtabula, Ohio.—*Improved Apparatus for Roasting Coffee*.—Patent dated April 6, 1858.—In using this improved machine the coffee is placed in the vessel A, which is placed over a proper fire and the shaft B is turned by hand, the scrapers and shovels rotated and the coffee properly stirred, and as each rod *i* is of a different length the scrapers or shovels will traverse over the surface of the bottom *b* at different points, in order that the whole of the coffee may be properly stirred.

The inventor says: I do not claim separately any of the parts described.

But I *claim* the vessel A, provided with the adjustable rotating scrapers or blades D, attached to rods *i* of varying lengths, which rods are pivoted to the shaft C, and the whole arranged to operate as and for the purpose described.

No. 20,577.—CHARLES NEER, of Troy, N. Y.—*Improved Cracker Machine*.—Patent dated June 15, 1858.—This invention is especially adapted to making "butter crackers" by machinery in a way corresponding to those made by hand, although it may be applied to the manufacture of any character of crackers: *a* is a suitable frame, *b* is an endless apron around the rollers *c c*, *d* is the handle by which the

apron and the crackers are drawn along, *h* is a box into which the dough is placed, *i* is a grating with conical holes at the bottom of the box *h*, *k* is a follower pressed down on to the dough by the rack *l*, pinion and ratchet wheel *m* on the frame *m*¹ actuated by the lever *n* and pall *o* or other suitable device. After the dough is placed in the box *h*, the follower *k* is pressed down on to the same to consolidate the dough and force it into the grating *i*.

The inventor says: I *claim*, 1st. The grating *i*, perforated with conical holes, in combination with the dough box *h*, and follower *k*, substantially as and for the purposes specified.

2d. I claim the worker *r*, having the eccentric motion specified, and provided with the cavities 11, substantially as and for the purposes specified.

3d. I claim the plate *y* formed with the convex parts 15, substantially as and for the purposes set forth.

No. 21,606.—J. HOLYLAND & J. C. HOLYLAND, of Rochester, New York.—*Improved Cracker Machine*.—Patent dated September 28, 1858.—This invention relates to an improvement in machines that are used for cutting out crackers from sheets of dough, and which are generally known as cracker machines. This invention consists in applying springs to rods which are connected with the cutter plate, so that the machine will be protected from all strain, and the cutter plate made to act more efficiently than usual.

Claim.—The arrangement and combination of the socket *l*, arm *k*, spring *p*, and rod *n*, as and for the purposes shown and described.

No. 22,056.—THOMAS C. BALL, of Keene, N. H.—*Improved Infants' Cradle*.—Patent dated November 16, 1858.—The nature of this invention consists in having pieces which are worked by cranks driven by springs, or other equivalent mechanism, arranged to lift alternately on opposite sides of a cradle with sufficient force to cause it to rock, or when it is set to rocking to maintain the momentum and keep it in motion.

Claim.—The arrangement of the cranks C C, pieces D D, slot E, and cross-bar F, in combination with the spring and gearing operating in the manner explained, for the purposes specified.

No. 20,284.—JEAN B. MALBERT & AUGUSTI CHEVIRON, of St. Louis, Missouri.—*Improved Spring Rocking Cradle*.—Patent dated May 18, 1858.—This invention consists of a combination of springs, cog and ratchet wheels, which are secured in a frame and placed inside of one of the columns which constitutes a part of the frame of the cradle. The machine is connected to the cradle by means of the small shafts and lever shown at A O. The cradle is swung on pivots in the columns as shown at Q.

The inventors say: We do not claim broadly the application of machinery to the column or frame of the cradle, neither do we claim the double escapement (which consists of the beams X X, the pallets B B, and the springs *c c*) as such.

But we *claim* the arrangement of this double escapement with the

escape wheel D, in the manner described, the wheel being operated by the described combination of wheels and springs, in the manner set forth.

No. 22,349.—HENRY P. CLAWSON, of Newbern, N. C.—*Improved Pepper Cruet*.—Patent dated December 21, 1858.—This invention consists in placing within the top of the pepper cruet or box, a rotating or semi-rotating brush, whereby the perforations of the top of the box are prevented from becoming choked or clogged, and a free discharge of the pepper insured.

Claim.—Placing within the perforated top, or cap B, of a pepper cruet or box A, a rotating or reciprocating partially rotating brush C, arranged substantially as and for the purpose set forth.

No. 19,560.—JOSEPH F. HALL, of Bangor, Maine.—*Improved Curtain Fixture*.—Patent dated March 9, 1858.—The nature of this improvement consists in the adaptation of a cap piece over the pulley at one end of the roller, which shall have the effect simultaneously to cover the pulley as a protection against dust and injury, and guide the cord from getting out of place, and also to act as a spring bearing against the pulley to hold it in position.

Claim.—The combination of the spring E, and the pulley i, substantially as set forth.

No. 20,013.—THOMAS K. WORK, of Hartford, Conn.—*Improvement in Curtain Fixtures*.—Patent dated April 20, 1858.—This invention consists in a novel application of friction rollers to a semi-circular yoke, the rollers and yoke being fitted within, or to a case, and the whole arranged so that the shade or curtain may be retained at any desired point by friction produced by the pressure of the friction rollers on the shade roller, and the shade roller relieved of the friction whenever it is turned by the band.

The inventor says: I do not claim broadly the application of friction rollers to the shade roller, nor do I claim any of the parts separately.

But I *claim*, first, the specified arrangement, consisting of rollers *h*, bar *c*, pin *e*, yoke *c*, case A, endless band F, roller D, for the purpose set forth.

Second. I claim, in combination with the above, the plates A A¹, constructed with the projecting ears *a*, as shown, so that the plates may be attached either to the front side of the window casing as may be desired.

No. 22,153.—THOMAS C. BALDWIN, of Buffalo, N. Y.—*Improved Curtain Fixture*.—Patent dated November 30, 1858.—A is the window frame, B the curtain roller, C the curtain or shade, and D is the winding pulley thereof, such pulley having a cord and tassel depending from it, as shown at E; another cord and tassel being suspended from the middle of the lower part of the curtain, as seen at F. G and H are the two bearing blocks of the curtain roller, one of them, viz: G, or that opposite to the one against which the pulley D runs is formed

with a bearing recess, or supporting bearing *a*, for the reception of the cylindrical end of the curtain roller. Directly over the recess *a* is what is termed the detaching recess, or chamber *b*, which opens into the bearing *a*, and is made of greater depth than such bearing *a*.

The inventor says: I *claim* the detaching chamber *b* and passage *i* in their combination and arrangement with the journal bearings of the two bearing blocks *G H*, and with the rotary friction ratchet, its spring and the pulley arranged at one end of the curtain roller, substantially as described and for the purpose specified.

I also claim the arrangement of the rotary friction ratchet, the spring and the pulley at one and the same end of the curtain roller, or so that the said ratchet may turn on the journal projecting from said pulley, in manner and for the purpose to obtain the advantages as described.

No. 20,906.—ALSON VAIL & TRACY VAIL, of Berlin, Wis.—*Improved Earthenware Dishes*.—Patent dated July 13, 1858.—This invention consists in making dishes porous on their inner surface, so that the moisture shall be absorbed from hot eatables, and at the same time kept in a dry palatable condition. To accomplish this result the dish is formed of some porous argillaceous substance and only glazed on its exterior.

Claim.—A new article of manufacture, to wit: a covered dish with an absorbent lining, perforated or unperforated, as specified, for the purposes set forth.

No. 21,683.—JOSEPH JOHNSON, of New York, N. Y.—*Improved Apparatus for Raising Dough for Bread*.—Patent dated October 5, 1858.—The nature of this invention consists in attaching a brake or reversed arch to the bottom *a a* for giving even temperature to the heat throughout the whole length of the box; and the reversed conical shield for receiving and concentrating the plane of the lamp, and slotted in such a manner that the lamp may be easily placed in its position, and be removed when desired without removing the box.

Claim.—The double brake *a* and *a*¹, in combination with the conical shield *b*, operating as described, and for the purposes set forth.

No. 19,968.—ISAAC S. SCHUYLER, of New York, N. Y., assignor to J. McCOLLUM, of said New York, N. Y.—*Improved Machine for Rolling and Cutting Dough*.—Patent dated April 13, 1858.—The nature of this invention consists in the substitution of removable shifting guides in the place of permanent guides, in combination with the slides of reciprocating cutters; in the combination of mechanical devices by which the shifting guides are operated, and in the substitution of an adjustable perforated clearer plate *I* in place of the well known stationary perforated clearer plate, in combination with reciprocating cutters *E E*, for the purpose of discharging the dough, and also in giving the said adjustable clearer plate a yielding pressure on the dough when acting to discharge.

The inventor says: I *claim*, first, the removable guides *A A* or their equivalent, when used in combination with the slides of a recip-

rocating cutter, and operated for the purpose of releasing and securing the cutter, substantially as herein before described.

Second. I claim the perforated discharging plate, either with or without yielding resistance, in combination with the reciprocating cutter when made adjustable substantially as described.

No. 19,610.—JAMES PERRY and ELISHA FITZGERALD, of New York, N. Y., assignors to JAMES PERRY, DANIEL FITZGERALD, and HORATIO BOGART, of said New York, N. Y.—*Improvement in Raising Dough*.—Patent dated March 9, 1858.—The object of this invention is to prepare dough or paste in such a way that, in the process of preparing and baking, it will be raised or leavened. It consists in mixing the dough in a close vessel under gaseous pressure. It also consists in discharging the dough, which has been mixed under gaseous pressure, from the vessel in which it was so mixed by the pressure of the gas, so that it can be taken in quantities of the required size.

The inventors say: We *claim* the process of preparing dough or paste for making bread, cakes, or other farinaceous articles of food, by mixing the materials with gas, under pressure, in a closed vessel, substantially as described, as a means of leavening or raising the same, as set forth.

We also claim discharging the dough as aforesaid from the vessel, by the gaseous pressure, as it is required, substantially as and for the purpose specified.

No. 19,738.—PATRICK MIHAN, of Boston, Massachusetts, assignor to Himself and G. DAVIS, of said Boston.—*Improved Egg Beater*.—Patent dated March 23, 1858.—A is a circular plate of tin, the edge of which is turned down at right angles with the surface, so as to give stiffness to the plate. B is a tinned wire passing through a hole in the centre of the plate A. To the lower part of B is soldered a metallic foot-piece C and wire D *d*. E is a pinion fast to the shaft B. F is a strip of metal bent, and serves to prevent the shaft from moving up and down. G is the sector of a large pinion turning on the axle H. I is the handle which is soldered to G.

Claim.—Beating apparatus, constructed and operating substantially as described, in combination with the portable plate or cover A, so that it may be either held in the operator's hand or placed on the top of a vessel.

No. 22,161.—HENRY BURT, of Newark, New Jersey.—*Improved Apparatus for Assorting Eggs*.—Patent dated November 30, 1858.—The nature of this invention consists in the employment of a box made to exclude the light. The top of this box, which may be movable or fixed, is perforated with holes of proper size to receive the eggs endwise and permit their resting therein at their longest diameter.

Claim.—The arrangement of the perforated surface *b* for receiving the eggs and excluding the light as described; also the mirror *d*, in combination with the above, arranged substantially as and for the purpose specified.

No. 20,032.—WILLIAM BORRMAN, of Cincinnati, Ohio.—*Improved Apparatus for Beating Eggs, Churning, and the like Processes*.—Patent dated April 27, 1858.—The leading feature of novelty in this invention is the provision of a semi-spherical dasher formed of wire or other open work, and rotated concentrically within a bowl of corresponding size and form; also in retaining beyond the action of the dasher such portions of the egg or other matter as are not sufficiently beaten.

The inventor says: I *claim*, first, the semi-spherical open work dasher C in the described combination, with a bowl A of corresponding form and size, for the purposes set forth.

Second. In connexion with the above I claim the inverted cup B, adapted to receive the egg or other matter as it becomes sufficiently beaten, and retain it beyond the reach of the dasher.

No. 20,359.—ALLAN McKEACHNIE, of New York, N. Y.—*Improved Foot Cleaner*.—Patent dated May 25, 1858.—By means of a scraper, rotary brushes, and brush cleaners, placed in a proper frame or basin, a very convenient device is obtained to scrape and brush shoes or boots quite clean.

The inventor says: I am aware that brushes have been previously combined with scrapers for the purpose of cleaning the feet, but so far as I am aware stationary brushes have been only used and arranged in a very inefficient manner. I therefore do not claim broadly a scraper combined with brushes, irrespective of the construction and arrangement shown and described.

But I *claim* the scraper B, in combination with the rotary brushes D and elastic rotary brushes E E, with or without the cleaners *h f f*, the above parts being placed within a suitable shell or basin A, and arranged as and for the purpose set forth.

No. 19,733.—ENOCH S. FARSON, of Philadelphia, Pa., assignor to Himself and HENRY H. BROWN, of said Philadelphia.—*Improvement in Cream Freezers*.—Patent dated March 23, 1858.—This invention consists in arranging the cream cylinder so that it shall oscillate in a *horizontal* position in the ice chamber on rotating its shaft, and in constructing the beater *p* so as to cause it to force air through the cream as it is carried round in the cylinder in operating the machine.

Claim.—The concave beater *p* in combination with a scraper *q* and an oscillating horizontally placed cream cylinder B, the same being arranged so as to operate together in the manner and for the purpose set forth and described.

No. 19,147.—H. B. MASSER, of Sunbury, Pa.—*Improvement in Ice-Cream Freezers*.—Patent dated January 19, 1858.—The nature of this improvement consists in a bevelled pivoted stop arranged on the ice vessel top and an inclined or bevelled stop on the bottom of the cream cylinder for operation in combination with an offset or projection on the upper edge of the cream cylinder C and one on the lower end of the agitator, whereby, when the crank shaft which carries the agitator or scraper *b* will turn together, and when turned in an opposite

direction, the agitator *c* will turn and scrape off the frozen cream that may have adhered to the sides of the cream cylinder.

Claim.—The bevelled pivoted stop *E* arranged on the top of the ice vessel, and the bevelled stop *G* on the bottom of the cream cylinder, for operation in combination with the offset *F* on the upper edge of the cream cylinder, and the offset *G* on the lower edge of the agitator and scraper, substantially as and for the purposes set forth.

No. 19,635.—WILLIAM HEATON, of Green county, Pa.—*Improvement in Apparatus for Drying Fruit.*—Patent dated March 16, 1858.—The claim and engraving will explain the nature of this invention.

The inventor says: I am well aware that hot air vents, flues, heating cells, and vapor vents, have been used, and therefore, singly, in themselves, I disclaim all such devices.

But I *claim* the construction of a fruit-drying apparatus, when formed with an inner casing or chamber *m m m m* having series of hot air vents *n n n n*, series of hot air flues or heating cells *r r r* with the compound register chimney *f f* formed with a smoke flue *O J Q*, and hot air exit flues *J J*, and vapor vents or escapes *I I*, when arranged and used substantially as described.

I am also aware that rotating reels and drying sieves and pans have been employed singly for various purposes and individual devices; I do not claim them.

But I claim the revolving or rotating drying reel *t u v w*, the drying sieves *x x* and pans *y y* when used in arrangement with the casing, vents, flues, cells, register chimney, smoke flues, exit flues, and vapor escapes, in the manner and for the purposes set forth.

No. 21,415.—NICHOLAS HALLOCK, of Flushing, N. Y.—*Improved Fruit Box.*—Patent dated September 7, 1858.—The nature and object of this invention is to obviate objections heretofore made to baskets used for packing fruit, and make a fruit box capable of proper ventilation for the preservation of fruit, adapting it so as to secure the greatest economy as to space or bulk, and rendering the box strong and cheap, costing much less than baskets.

Claim.—Constructing a fruit box consisting of two sheets of material, one of which forms the body of the box, the other the bottom, being ventilated as described, and combining therewith the folding handle, substantially as set forth and for the purposes specified.

No. 22,433.—JOHN K. JENKINS, of Kingston, Pa.—*Improvement in Preserving Fruits.*—Patent dated December 28, 1858.—The nature of this improvement consists in giving to fruit, vegetables, hams, eggs, &c., an air-tight water-proof coating or envelope, impervious to dampness or dryness of cellars or climate, and a safeguard against rats, vermin, and insects of all kinds. The composition used for this purpose is made of the following ingredients, viz: 16 parts resin, 2 parts tallow or lard, and 1 part beeswax. The resin is melted and the whole well mixed together, and put on the article to be preserved while hot. Plaster of Paris, pulverized chalk, coal or wood ashes,

is used for dusting the article coated to prevent the coating from sticking.

Claim.—Dusting the article to be coated with any dry powder, such as plaster of Paris or its equivalent, to prevent the coating from adhering to the article coated, and permitting it to come off readily.

No. 20,031.—HENRY D. BLAKE, of New Hartford Centre, Conn.—*Improvement in Furniture Casters*.—Patent dated April 27, 1858.—In operating this caster the plate A is secured to the object through the flange or rim *a* by means of screws or nails; the pin is then made to enter the plate, the spring *c* catching into the groove *d*, thus sustaining the two parts together. The lower portion may be easily removed by pulling it gently, the spring giving and slipping out of the sustaining groove.

The inventor says: I am aware that the spring and groove have been employed before, a groove being made in the plate or socket tube, the spring secured in it, and catching on the groove made in the pin, but this is inconvenient and expensive, hence I do not claim the spring or the groove, my claim being confined to the manner of securing and arranging the groove and spring for the purpose of making a cheaper article to the trade.

But I *claim* the described arrangement of the several parts of the caster, constructed and operated in the manner and for the purpose fully set forth.

No. 22,243.—HENRY E. RICHARDS, of Newark, N. J.—*Improved device for supporting Furniture Casters*.—Patent dated December 7, 1858.—The concavity seen at A is for the caster to fit into, and the points or projection B B B and the concavity A, and to give the strongest form consistent with amount of metal.

Claim.—A new article of manufacture for a caster rest, consisting of the arrangement of the concavity A and the points B B B, substantially as and for the purpose described.

No. 19,369.—JACOB KINZER, of Pittsburgh, Pa.—*Improved Caster for Furniture*.—Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The improved mode of constructing casters for furniture described, (having the shank and its body cast in one piece, and the roller and its pivot in another,) by making in each arm of the shank a deep recess with a collar above and a wedge-shaped entrance from beneath, for the purpose of receiving the axis or pin of the roller in the manner herein before described. The recess to hold the roller in place when there is no weight upon it, and the collar to serve as a bearing for the journals of the axis to sustain the weight it has to support.

No. 19,127.—A. D. BROWN, of Glasgow, North Britain.—*Improvement in Construction of Furniture*.—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Connecting together the several parts of chairs, and of

other articles of furniture, by the employment of metallic differently-slotted dovetail pieces, when the said dovetail pieces are secured into recesses in the wood or material of the furniture by means of screws passing through the bottom of said slots; and the centre, or thereabouts, of the parts in combination with wedge dovetailed projections, secured also by means of screws when said screws pass through the central line thereof, substantially in the manner as described.

No. 19,405.—JOHN H. BELTER, of New York, N. Y.—*Improvement in the Method of Manufacturing Furniture*.—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the simple pressing of veneers and glue between dies or “cawls,” one of which is convex, and the other, or others, concave.

Nor do I claim the so gluing of veneers together that the grain of each stands at right angles to that of the next.

But I *claim*, first, the described method of accurately finishing at one operation a suitable stave for each layer of the spherical work described, viz: the applying together of as many of the roughly-manufactured staves as there are to be layers in the work and bending the whole between clamps of the form and bevel required, and removing the superfluous material by a plane, or its equivalent, substantially as and for the purposes set forth.

Second. I claim the applying together of the edges of the staves of the several layers at one operation by confining the staves in their proper positions at one or more points, and compelling the remainder of the edges to guide each other as the cawls are compressed, substantially in the manner and for the purposes set forth.

Third. I claim the described method of accurately breaking the joints of the several layers of staves by notching the ends of the staves of each layer differently from the staves of the other layers, and resting the notches of all the staves across knife-edges projecting perpendicularly from the surface of the inside cawl, all in the manner and for the purposes set forth.

No. 19,507.—JOHN KEEZER, of Chillicothe, Ohio.—*Improvement in Hominy Mortars*.—Patent dated March 2, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I disclaim wire gauze mortars used for hulling rice as constituting no part of my invention.

I *claim* the construction of mortars for operating on moist corn, with perforations bevelling outward and presenting sharp edges on the interior, substantially as and for the purpose specified.

No. 20,538.—JASON BARTON, of East Hampton, Conn.—*Improved House Bell*.—Patent dated June 15, 1858.—This invention consists in the peculiar arrangement of a spring G, lever D, tongue or hammer E, and handle or rod, placed relatively with each other; and with a bell C, whereby the tongue or hammer, as the handle or rod F is

actuated, is made to move gradually about half the distance of its stroke, and then move the remaining space with an accelerated speed, so as to strike the bell forcibly, the hammer striking the bell at one or at two opposite points, and having the same movement in either direction.

The inventor says: I am aware that springs and levers have been previously used and arranged in various ways, to force a tongue or hammer from one point to another, and back again, so as to strike a bell, and hammers also have been forced across the mouth of a bell against two opposite points thereof. I therefore do not claim such devices.

Nor do I claim broadly such operation of the tongue or hammer.

I *claim* the arrangement of the parts in a house bell, as specified, for the purposes set forth.

No. 21,891.—DAVID LITHGOW, of Philadelphia, Pa.—*Improved Flat Iron*.—Patent dated October 26, 1858.—This iron consists of a hollow triangular metallic box A A, with a chimney B and a non-conducting handle C. The gas is introduced at the rear of the box through a flexible tube D, and thence through the tubes E E, about one-eighth of an inch in diameter, having a series of jets *ee* along their inner side.

Claim.—The combination of the two jet pipes E E and the heating plate F, in the manner substantially as described.

No. 21,450.—JOHN SHAEFER, of Lancaster, Pa.—*Improved Machine for Ironing Clothes*.—Patent dated September 7, 1858.—On the base frame B are erected two uprights A, of any desired dimensions and distance apart, with a cross piece *c*, with the thread for a screw E in its centre. This cross piece is firmly framed to the uprights A. The screw E operates on a movable cross piece D, the end of which has a piece *f* attached at right angles in a groove in the uprights A, and resting upon the axis of the cylinder G, and thus enables the operator to adapt the pressure to the thickness of the goods to be passed through or under it, and over the rollers J J.

Claim.—The combination and arrangement of the hollow cylinder G, with the rollers J J, the screws and caps 1 2 and 3, the spigot 4, the screw plug *g*, the screw E, the tables K, all secured in the frame A and B, and operated by the crank and gear wheels, substantially as and for the purposes specified.

No. 19,964.—JOSEPH BORDEN, of Bridgeton, N. J., assignor to DAVID POTTER and FRANCIS L. BODINE.—*Improvement in Preserving Jars*.—Patent dated April 13, 1858.—This improvement in preserving jars relates more especially to those made of glass, and to that class in which a groove or recess is formed on the outside to hold the cementing material, by which the cover is hermetically sealed to the jar.

Claim.—A preserve jar, in which the cup or groove for holding the cement is formed on the exterior from the wall of the jar by the method described.

No. 22,066.—REUBEN M. DALBEY, of Mount Washington, Ohio.—*Improvement in Sealing Preserve Jars*.—Patent dated November 16, 1858.—This invention consists in the application of the yoke or ring to an ordinary jar or bottle, by means of which a lid may be securely attached to the top of the vessel by the use of screws or other device.

Claim.—The yoke or ring, in combination with the leather or its equivalent, as applied to vessels substantially as described, for the uses and purposes set forth.

No. 21,442.—WILLIAM S. REINERT, of Philadelphia, Pa.—*Improved Kneading Machine*.—Patent dated September 7, 1858.—This invention relates to an improvement in those machines in which a traversing rotating roller is used in conjunction with a trough or table to knead butter, dough, clay, or other like plastic substances; and the improvement consists in a certain combination of a corrugated roller, pinions, guides, and racks, and so arranged in respect to the trough that the roller and the appliances for operating the same may be allowed an upward and downward movement independent of the trough, in order that the roller may be caused to bear with more or less pressure on the material to be kneaded at the will of the operator.

The inventor says: I do not claim, broadly, the employment of a traversing, rotating, corrugated roller for kneading purposes.

But I *claim* the shaft D with its corrugated roller E and pinions *d d*, in combination with the guides *f* and pinions, when the whole of the above named parts are so constructed and arranged in respect to the trough that they may have an upward or downward movement, controlled by the weight I, or its equivalent, independently of the trough, substantially as and for the purpose set forth.

No. 20,724.—JAMES MACNISH, of Berlin, Wisconsin.—*Improved Knife and Spoon Cleaner*.—Patent dated June 29, 1858.—The scouring powder being applied, the knives are introduced between the faces of the disks C D E and the disks revolved rapidly by means of the gearing which is actuated through a handle *j* of the large cog wheel K. The forks and spoons are first scoured on their backs by being held against the concave periphery of the disk C, then on their front side by being held against the convex periphery of the disk E.

Claim.—An improved new article of manufacture, to wit: a machine combining three disks, C D E, the faces of which are adapted for cleaning large and small knives and the periphery of one of the same for sharpening knives, and the peripheries *a f* of the other two for cleaning the front and back of spoons and forks, substantially as set forth.

No. 20,391.—WILLIAM MILLER, of Waltham, Mass., assignor to Himself and DANIEL S. FRENCH, of Wadham's Mills, N. Y.—*Improvement in Knife Cleaners*.—Patent dated May 25, 1858.—This machine is operated as follows: the box *b* is filled with fine sand, emory, or other polishing material, which works down through the slots *g* and *k*; the knife is inserted between the lips 5 of the leathers and is worked back and forth between them, or is moved along laterally between the

other parts of the leathers, the spread lips 5 allow the round portion next to the handle and the shank of the fork to be polished as well as the blades and tines.

The inventor says: I am aware that knife cleaners have been constructed in which a box is employed to hold the polishing material and deliver it to the rubbing surfaces; I therefore lay claim to no such invention.

But what I *claim* as an improvement in knife cleaners is the shelves B operating in the manner substantially as set forth.

No. 20,929.—JACOB J. BANTA, of Jersey City, N. J.—*Improved Knife Cleaner*.—Patent dated July 20, 1858.—This invention consists in the use of a spring hopper containing brick dust or other cleaning material and forming one side of a cleaning cushion, faced with leather or other equivalent material, and forced against the stationary side of the cushion by suitable springs, so that a knife inserted between said cushion and drawn back and forth is cleaned on said cushion by the brick dust or other cleaning material supplied from the hopper.

Claim.—The combinations of the cushions *b* and *c*, and hopper *e*, with the spring *h h*, the whole acting substantially as and for the purposes specified.

No. 20,340.—HORACE T. FIELD, of New Braintree, Mass.—*Improved Knife Polisher*.—Patent dated May 25, 1858.—The improvement in this knife polisher relates more especially to the rotary disk polisher which generally consists in two parallel circular disks mounted on the same shaft, one of which is fixed to the shaft and the other moves longitudinally and is held against the fixed disk by a spring which allows it to yield and admit a knife blade within.

These improvements consist of a frame A on which is mounted a shaft H, carrying two circular disks B B¹; the disk B is fast to the shaft, the other, B¹, can move laterally. To the adjacent faces of the disk is attached a narrow elastic annular buffer E of the same diameter at its outer edge as the disk, which leaves a chamber G between the inner edges of the buffers to hold the polishing powder.

Claim.—The combination of the annular buffers with the disks, when arranged on the adjacent faces of both disks, as described, for the purpose set forth.

No. 21,058.—JOHN J. ARMSTRONG and AUSTIN T. ARMSTRONG, of Brooklyn, N. Y.—*Improved Knife Sharpener*.—Patent dated August 3, 1858.—This invention consists in securing a file B, or its equivalent, by its edges between the two bevelled sides *c d* or supports for the knife by which the whole breadth of the file is made, while at the same time the proper bevel is given to either side of the knife without reversing the instrument.

Claim.—The combination and arrangement of parts described, that is to say, securing the file by its edges between the inclines *c* and *d*, by which the advantages stated are secured, as set forth.

No. 22,055.—ALEXANDER ANNAN, of New York, N. Y.—*Improved Knife Sharpener*.—Patent dated November 16, 1858.—This invention

consists in having two cutters formed of rectangular steel plates cut or corrugated at their sides, similar to files, and fitted in oblique grooves in a metallic frame, the cutters being placed in such position that they retain each other in the frame, and are rendered capable of being adjusted in varying positions in the plane of their movement, so that the whole surface of the plates may be used as cutting surfaces.

Claim.—The two cutter plates C C, with cut or corrugated surfaces, placed in oblique positions relative with each other, and arranged or fitted between the upright plates B B of a base A, substantially as and for the purpose set forth.

No. 21,746.—JAMES DODGE, of Waterford, N. Y.—*Improvement in Grinding and Polishing Knives.*—Patent dated October 12, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim* the method of grinding and polishing articles, and forming their surfaces upon a revolving grindstone or polishing wheel, by attaching them to a drum or cylinder, which is made to revolve in the same direction with the stone or wheel, and with velocity adjustable thereto, substantially as set forth.

I further claim the method of attaching and supporting upon a curved surface the article to be ground, so as to permit it to rock thereon, thereby shaping the surface, when formed either flat, concave, or convex, substantially as set forth.

No. 19,419.—JOSEPH C. HAINES, of Dublin, Ind.—*Improved Culinary Ladle.*—Patent dated February 23, 1858.—Projecting from the handle of the strainer B, a short distance from the bowl, is a hook *b*, to receive the handle of the ladle A. At each fresh charge of crackling, the ladle A is placed in an elevated position, and is then gradually pushed forward on the fulcrum *b*, and at the same time closed down.

Claim.—The ladle A and strainer B *b*, adapted to operate in conjunction substantially in the manner set forth.

No. 21,044.—D. CUMMING, jr. of Mobile, Alabama, assignor to D. CUMMING, sr., of Mobile, aforesaid.—*Improvement in Mangles.*—Patent dated July 27, 1858.—This invention consists in the employment of a rotating cylinder having fixed bearings, a rotating clothes cylinder, and a cylinder with a segment removed so as to form a plane face; the latter cylinder having its axis placed in yielding or adjustable bearings, which are acted upon by wedges and weights, so that the clothes may be operated upon, or mangled in an expeditious manner.

The inventor says: I do not claim broadly the employment or use of pressure rollers for mangling clothes, for they have been used and arranged in various ways for accomplishing the purpose; but, so far as I am aware, they have been used in connexion with a horizontal bed or plane surface on which the clothes were placed, thus making a cumbrous machine.

What I *claim* is, the employment or use of the cylinder B, having its axis fitted in fixed bearings *a*, the cylinder C having an elliptical surface *c* on a portion of its periphery, and having its axis fitted in

sliding bearings *b b*, and the wedges *D D* having weights *F* attached, the whole being arranged to operate as and for the purpose set forth.

No. 20,002.—SAMUEL NOWLAN, of New York, N. Y.—*Improved Domestic Mangle*.—Patent dated April 20, 1858.—When the bureau is to be used as a mangle, the table *T* is lifted so as to occupy a horizontal position; the strat *S* is taken out of the groove and placed upright beneath the table to support it. The crank is then put in motion in the direction of the arrow *o*, whereby the apron *L* is unwound. The cloth to be mangled is then slightly wetted, folded, and laid on the apron; when this is done the crank motion is reversed, *i. e.*, turned in the direction of the arrow *w*. By this operation the apron is wound up together with the cloth. After the cloth has been rolled and pressed sufficiently, the crank motion is again reversed, the apron unrolled, and the cloth, completely mangled, taken out.

The inventor says: I do not confine myself to the application of mangles, conducted and arranged as described, to bureaux only, as substantially the same principle of construction can be applied to any kind of furniture, such as wardrobes, tables, desks, &c.

I *claim* the mechanism of a mangle constructed and arranged in relation to and in combination with parts of any suitable articles of furniture in the manner and for the purposes specified.

No. 19,347.—EDWIN M. CHAFFEE, of Providence, Rhode Island.—*India-Rubber Door Mat*.—Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not intend to confine myself to the lozenge cells, as it is obvious that square and some other forms will do as well.

Neither do I intend to confine myself to ribs or ridges intersecting each other, as it is evident that ridges forming various figures will answer much the same purpose, such, for instance, as run circular, parallel, serpentine, zigzag, or angular, or any other raised surface of rubber.

Nor do I confine myself to rubber alone as the only gum, as gutta-percha and other gums may be substituted for it.

I *claim* the mat as formed by ridges or grating, together with the cells or spaces, of whatever form, the one to serve as scrapers to clean the foot, and the other to contain the dirt, whether of rubber, gutta-percha, or other flexible gums.

No. 20,112.—WILLIAM WELLS, of Harrisburgh, Pennsylvania.—*Improved Folding Mattress*.—Patent dated April 27, 1858.—*A* is the top frame; *B* the raised or angular hinge joint; *C* the bottom of the frame; *D* the bottom strips; and *E* the springs.

Claim.—The inclined seats of the hinge *B*, on which seats the hinge is fastened for the purpose of folding the mattress in the manner set forth, and for the purposes specified.

No. 22,037.—THOMAS BRIGGS SMITH, of Marietta, Ohio.—*Improved Elastic Material for Mattresses and Cushions*.—Patent dated November

9, 1858.—The nature of this invention consists in cutting hickory, poplar, cedar, or other suitable wood, into thin elastic shavings of any desired length, width, and thickness, and at the same time dividing said shavings longitudinally and coiling them so as to form compound shavings or conical wooden springs, consisting of numerous thread-like fibres compactly and spirally coiled one within another, and then subjecting these to the action of steam in a suitable chamber.

Claim.—The compound coil of spiral woody fibres described and represented, when prepared substantially as described, and used as a substitute for curled hair.

No. 19,681.—PLUMER H. CHESLEY, of Lynn, Massachusetts.—*Improvement in Meat Choppers.*—Patent dated March 23, 1858.—The nature of this invention consists in constructing a wheel *a* with cogs *b b b* so placed upon its surface that upon turning it with a crank *c* they will successively come in contact with the projections *d d d* on the rods *fff* to which the knives *k k k* are attached, and drive them down through their spaces in the slots *g g g* until they are detached from the cogs on the wheel by its rotary motion.

Claim.—Arrangement of the cogged wheel, the series of spring cutters and cleaner with each other, operating substantially in the manner and for the purposes as described.

No. 20,258.—L. A. DOLE, of Salem, Ohio.—*Improved Meat Chopper.*—Patent dated May 18, 1858.—This machine consists of a circular and revolving tub *A* mounted on legs *B C*. Two knives *D D* vibrate up and down in said tub and mince the meat perfectly. The tub has a very slow circular motion imparted to it by a peculiar system of gearing, while the knives have a rapid up and down movement by means of a crank shaft *G g*.

Claim.—The arrangement of the horizontally slotted reciprocating vertical knife shaft *c f F*, grooved ways *c c*, horizontal crank shaft *G g*, and central guide tube *d*, for use in combination with the following arrangement of gearing, consisting of the toothed rim *H* on the bottom of the tub, loose pinion *k* gearing in the same, loose and fast pinions *J L* arranged on the stationary axis *I* of the large driving pinion *J*, and two small pinions *P N* which are arranged on a shaft *O* passing through the face of said driving pinion *J*, and have an independent motion of the pinion, while they and it move round a common stationary axis and are actuated by the same crank or belt, substantially as and for the purposes set forth.

No. 19,547.—ABNER B. DAVENPORT, of Petersham, Mass.—*Improved Meat Cutter.*—Patent dated March 9, 1858.—The meat is placed in the tray *G*, and motion is given to the shaft *C*; the cam *H*, throwing back the lever *J*, turns the shaft *F*, raising the knife *L* by the cams *K K*. Each of the corners of the cam wheel *H* raising the knife gives a succession of strokes, while the pinion *I* gives motion to the gear *M N* and *O*, and, through them, drives *P* and *R*, carrying the tray *G*, which, as the end comes near the knife *L*, by the wedge acting on the

lever S, moves the gear P into the other driver, reversing the motion of the tray as each arrives near the knife L.

The inventor says: I am aware that vibrating knives have been used with moving trays; these I do not claim, mine, it will be seen, containing a different feature (its springing or yielding) in connexion with its vibration; neither do I claim the use of cams to operate the knife.

But I *claim* the combination, in the manner and for the purposes set forth, of the cam wheel, spring knife, and reciprocating tray, when constructed and operating as set forth and described.

No. 20,019.—PIERRE DEMEURE, of Brooklyn, New York, assignor to CHARLES CHEPY, of New York, N. Y.—*Improvement in Meat Cutters*.—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the original invention of S. Millet.

But what I *claim* as an improvement on the said patent of S. Millet, of May 24, 1853, is, first, the opening *l* in the cover *e*, placed near the front part of said cover for the purposes and as specified.

Second. I claim the arrangement of the hinged cover *e* and latches 5 5, in connexion with the removable basin *d*¹, for the purposes and as specified.

Third. I claim the arrangement of the cutters *i i*, acting, through slots in the cover *e*, in opposite directions on the meat, &c., to be cut as the same is presented by the revolving basin, substantially as and for the purposes specified.

No. 21,421.—JACOB K. HOYER, of Reading, Pa.—*Improved Meat Cutter*.—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that screw knives setting in a spiral position on the periphery of the revolving cylinder, and forming a screw feed, have been heretofore used. I therefore do not claim that part.

But I *claim* the arrangement of the knives in pairs on the periphery of the revolving cylinder, with their edges radiating from the centre of the cylinder, so as to operate the same as shears in passing between the knives of the hollow cylinder, when constructed as and for the purpose set forth.

No. 21,514.—M. NEWMAN, of Oak Hill, New York.—*Improved Meat Cutter*.—Patent dated September 14, 1858.—The object of this invention is to make a cheap, simple, and effective machine that can easily be cleansed and kept in repair, and thus secure a desirable article of kitchen furniture. The whole machine is made of cast-iron, except the knives, and the parts almost entirely put together without screws, pins, or any other devices, except those that are cast in or on the parts themselves.

The inventor says: I *claim*, first, in combination with the cutters,

the two-branched rack or comb for holding the material against the cutter, substantially as set forth.

I also claim holding the rack or comb in its recess by the clamping of the two parts of the shell together, substantially as and for the purpose described.

I also claim the manner of holding and arranging the screw feeder H on the shaft, so that a portion of the section of the screw shall be on said shaft, as shown and represented, and for the purpose set forth.

No. 19,728.—FREDERICK WOBERSBERGER, of Salem Station, Ohio.—*Improvement in Meat-Cutting Machines*.—Patent dated March 23, 1858.—The nature of this improvement will be explained by reference to the claim and engravings.

Claim.—The segment plates M arranged spirally on the roller between the pins in combination with the knives H, substantially as described.

No. 21,016.—EDWARD H. NASH, of Westport, Connecticut.—*Improved Closet for Milk*.—Patent dated July 27, 1858.—The object of this invention is to obtain a cheap and portable device in which a large number of milk-pans placed in as small space as possible, and in a very expeditious manner, the device being so arranged as to allow the air to circulate freely through it, and at the same time obstruct the sun.

The inventor says: I do not claim simply constructing a box or closet with blinds for sides, so as to admit air and exclude the sun, for this is a common device, and is used in many instances, as in well-houses, &c.

But I *claim* the box or case A, in combination with the rotating shaft C and shelves D, arranged as and for the purpose specified.

No. 21,842.—HENRY McCLAY, of Niles, Michigan.—*Improved Combined Mop and Brush*.—Patent dated October 19, 1858.—This invention consists in having a block or head of triangular form, with a handle fitted into it, one side of the head being fitted with bristles and forming a brush, and another side being corrugated, and having a cloth attached to one end, the cloth and head rendered capable of being so adjusted that the device may be used both as a scrub-brush and a mop.

Claim.—The tri-lateral block or head A attached at one side to the handle B, and having a brush formed on one of the other sides, the remaining side being corrugated and having a cloth C attached, the whole being arranged as and for the purpose set forth.

No. 21,019.—FREDERICK C. PAYNE, of Hebron, Connecticut.—*Improved Means of Adjusting Mosquito Bars*.—Patent dated July 27, 1858.—The nature of this improvement consists in attaching a slotted projection D to the body of the sheave E, and securing therein a weighted arm F, so that it may form what may be called a cramp-holder to whatever passes between, the end thereof up over the surface of the sheave.

The inventor says: I do not claim the sheave arrangement as used for hanging lamps, &c.

But I *claim* the application of the slotted projection D, the hanging weighted arm F, in the manner and for the purpose substantially as set forth and described.

No. 19,965.—J. S. BROWN, of Washington, District of Columbia, assignor to Himself and JOSEPH KENT, of Baltimore, Maryland.—*Improvement in Ovens*.—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim heating the draught air before it is introduced into the furnace or heater.

But I *claim* introducing the draught air in a thin sheet around the top of the oven and sides, substantially as described, whereby the heat, which otherwise would radiate from the outer surface of the oven, is employed for improving the combustion in the furnace or heater.

I also claim the strips or plates *b d* arranged in the enclosed air spaces, substantially as described, for the purpose of confining the heated air closely to or near the inner case of the oven, as specified.

No. 19,050.—JOHN SEIPEL and WILLIAM RUPP, of Washington, D. C.—*Improvement in Oyster Openers*.—Patent dated January 5, 1858.—The nature of this invention consists in a hollow tube A to carry off the ends of the shell and to support the knife 5 and levers 7 and *f* working the same.

Claim.—The hollow shaft, in combination with the double levers, for operating the adjustable knife, and these with the movable bed-plate or rest; the whole being relatively arranged and constructed as set forth.

No. 19,648.—SOLOMON OPPENHEIMER, of Peru, Indiana.—*Improved Milking Pail*.—Patent dated March 16, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that plugs or valves are pressed against the orifices of vessels for holding liquids, and the same kept closed through the instrumentality of springs, and such has been described in the English Patent Journal, vol. VII, page 146, by Theo. de Mevillac on his oil can; also a similar device has been patented to George Trott, on his lubricating cup, in 1856. I therefore disclaim any such devices.

But I *claim* the pendent rod and lever bar, when combined, and for the purpose of keeping the orifice in the milking pail open, when the same stands uninterrupted and in its proper position; anything else I hereby disclaim.

No. 20,811.—THOMAS E. MCNEILL, of Philadelphia, Pennsylvania.—*Improved Dust Pan*.—Patent dated July 6, 1858.—This dust pan is formed of an inclined and slightly concave surface *b* and a dirt receptacle or box *a*, so that the dust is prevented from being thrown back upon the floor by the return movement of the broom while the dirt is being swept into the pan.

Claim.—Constructing the dust pan with a dust receptacle or box *a* and inclined surface *b*, substantially as and for the purpose set forth.

No 19,182.—EDMUND BROWN, of Lynn, Massachusetts.—*Air-Tight Pepper Box.*—Patent dated January 26, 1858.—A is the box; D is its top or cover, and like those in common use, except that it is air-tight instead of being perforated. The lower part of A, constituting the neck or valve, is smaller than the upper part, the perforations *a* for the delivery of the spice being made in the periphery of said neck or valve, and not in the bottom. B is a cylinder or case of tin or other material into which the pepper box A is fitted, so as to play up and down with freedom, the bottom of the case being provided with a round hole through which the perforated neck or valve can be pressed. C C is a coil spring encircling the valve, one end resting on the shoulder of A and the other on the bottom of B. E is the handle, F is the check and thumb-piece. The contents of this box are delivered from the neck at the bottom, instead of at the top, as in other boxes.

Claim.—Making a spice and pepper box air-tight and self-closing, substantially as described, and for the object specified.

No. 19,855.—ERNEST KAUFFMAN, of Philadelphia, Pa.—*Improved Ice Pitcher.*—Patent dated April 6, 1858.—The claim and engagements explain the nature of this invention.

Claim.—The ice pitcher having the inner portion or lining B fitted to the outer portion or casing A, with screw-threads or their equivalents, which make a tight joint, but provide for its ready removal and replacement or renewal, as set forth.

No. 20,592.—GEORGE W. SMITH, of Hartford, Conn.—*Improved Ice Pitcher.*—Patent dated June 15, 1858.—This invention consists in surrounding an ordinary double-walled pitcher, or other vessel for holding liquids, with an additional shell E, arranged concentrically with it, and arranged above the double top and bottom of the common pitcher corresponding additional disks G C¹ in such a manner as to interpose an additional air space to the entrance of the external heat.

The inventor says: I am aware that vessels have been constructed with a double wall for the purpose of preserving their contents from the exterior heat, and I therefore do not claim this device.

But I *claim* surrounding double-wall pitchers with an additional concentric shell E, and their double bottoms and covers with corresponding additional disks G C¹, for the purpose of protecting the same from being battered through carelessness in handling and other cause, and preserving them from the direct contact of external heat, and thus keeping a colder body of air in contact with them of such temperature as shall not only more thoroughly preserve the cold temperature of the ice and water contained in the said pitchers, but also prevent the condensation of air on the exterior surfaces of the same, and the consequent dripping of the water thus accumulated therefrom, substantially in the manner set forth.

No. 21,717.—JAMES H. STIMPSON, of Baltimore, Md., executor of JAMES STIMPSON, deceased, late of said Baltimore.—*Improved Ice Pitcher*.—Patent dated October 5, 1858.—This invention is an ice pitcher with three walls constructed. The construction is shown in the section 2, where letters *a b c* indicate the three walls for the body, bottom, and cover of the pitcher, and *d e* the intervening non-conducting spaces occupied with air.

Claim.—The treble wall for ice pitchers, as set forth.

No. 20,499.—W. W. LYMAN, of West Meriden, Conn.—*Improved Refrigerating Pitcher*.—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I make no claim to a valve in the end of the nozzle or on the lid of the pitcher, as valves have heretofore been placed there.

Nor do I claim a single valve located anywhere.

But I *claim*, in the manufacture of ice pitchers, the particular location of the valve, viz, in the throat of the nozzle, when said valve shuts into instead of against the opening, and is constructed with double sides, or made hollow, provided with a projection lip or shoulder *f*, and having its seat provided with a lip or shoulder *g*, substantially as shown and described.

No. 21,808.—NELSON BARLOW, of New York, N. Y.—*Improvement in Coffee-Pots*.—Patent dated October 19, 1858.—The general nature of this invention is an improved condensing arrangement, whereby the vapor and aroma is retained, and also a graduated means for returning the same to the boiler.

A is the boiler or coffee-pot, with in which a strainer may be used if desired; the boiler should have a cap on the end of the spout, and its joints well fitted to prevent the escape of steam.

Claim.—The tubular condensing vessel B *c* in its specified arrangement, when cold water is used in the same, and the discharge is graduated in the manner described.

No. 19,780.—JAMES M. INGRAHAM, of New York, N. Y.—*Improvement in Coffee and Tea Pots*.—Patent dated March 30, 1858.—The water chamber A having been partially filled with boiling water, the space above the water becomes filled with steam, which, pressing upon the surface, forces the boiling water into the siphon F. The cock L being now opened, the water passes through it into the filterer *c*, which has previously been charged with the required quantity of coffee or other material; the scalding water percolates through the material, and finally reaches the bottom; it then passes out through the perforations around the apex, and there collects between the filterer and the pot, ready for use.

Claim.—The steam-tight coffee-pot, the filterer *c*, with the conical chamber B B and the siphon, combined, arranged, and operating in the manner and for the purpose as described.

No. 21,589.—WILLIAM AUSTIN, of Philadelphia, Pa., assignor to Himself and WILLIAM OBDYKE, of said Philadelphia.—*Improvement in Tea-Pots*.—Patent dated September 21, 1858.—This invention consists in furnishing the inside of an ordinary tea-pot with a plunger fitting in an annular casing, and is so arranged that by depressing the said plunger the whole strength of the tea is extracted, thereby requiring less tea to make the same amount of liquid of the same strength as that made in ordinary tea-pots.

The inventor says: I do not desire to claim the use of an interior casing for confining the tea in the inside of the same.

But I *claim* the plunger or presser D, in combination with the interior casing B, the whole being so arranged in the manner set forth, or any equivalent to the same, and for the purpose specified.

No. 22,278.—STEPHEN CULVER, of Newark, N. J.—*Improvement in Tea and Coffee Pots*.—Patent dated December 14, 1858 —B is the leach, composed of three parts; *a a* the receptacle in which the canister is held; *b* a canister into which the material from which the extract is made is enclosed; and *c* a tube or siphon by which the fluid extract is conducted from the receptacle to the hold below. *d* is a diaphragm or partition separating the hold A from the chamber *f*. Over the orifice *i* is a cap or hood, directed centrally, for the purpose of conducting the steam and vapor more directly against the bottom of the reservoir D and the stream running through the hole *k*.

The inventor says: I *claim*, first, the leach B, composed of the receptacle *a*, the canister *b*, and the tube or siphon *c*, constructed and arranged substantially as described.

Second. The combination of the reservoir D with the leach B substantially in the manner and for the purposes set forth.

Third. The diaphragm with the steam orifice *i*, as specified, and the combination thereof with the receptacle of the leach in the manner and for the purpose described.

No. 20,517.—WILLIAM SMITH, of Cincinnati, Ohio.—*Improved Provision Cutter*.—Patent dated June 8, 1858.—The cutters *h* are held and adjusted to the circular plate *f* with the screws J J K and *s s*; the screws J are for drawing the cutters up to the plate, and the screws K for forcing them away. *m m* is a semi-cylindrical piece, closed at one end and made to slide on the plate *a* in the grooves R R for the purpose of feeding the provision to the cutters.

The inventor says: I *claim* the arrangement of the semi-cylindrical piece *m* and guide-slides R, arranged with the stock *a* and circular plate *f*, all as constructed, for feeding the provision to the cutters as mentioned.

I also claim the arrangement of the screws J J K and S S with the cutters *h* and plate *f*, for adjusting the cutters from and to the plate, as represented, for purposes mentioned in the specification.

No. 20,543.—ALANSON BROWN, of Rochester, New York.—*Improved Quilting Frame*.—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the construction of the frame A A B B C, and its combination with the standards S S, said frame consisting essentially of the revolving bars B B, the end pieces A A, and the rigid bar C, which bar C revolves in the standards S S in the manner and for the purpose substantially as described.

I also claim my method of converting the whole into a cradle by means of the reversible feet F F.

It being understood that I disclaim the mere substitution of rockers for feet in any form of bed or cradle, that being a common practice, but claim the feet or rockers F F, reversible, in the manner and for the purpose substantially as set forth.

No. 20,764.—JOHN KING, of Little Falls, New York, assignor to WILLIAM HIGBIE, HENRY LINK, and GEORGE R. COMSTOCK, of said Little Falls.—*Improved Quilting Frame*.—Patent dated June 29, 1858.—C and G are two shafts or rollers arranged parallel to each other, and turning in bearings at either end in the two end pieces M N. H is a third roller, also working in the end pieces, and arranged parallel to the other two rollers a little back of the roller G, and a little higher than it. The main rollers C G have selvage E F nailed on to them, and to which the quilt lining may be stitched. The two end frames M N are united by means of a tie bar or board R.

Claim.—The arrangement of the shafts C G and H, and connecting bar R, operating substantially as and for the purpose described.

No. 19,107.—CHESTER STONE, of Ravenna, Ohio.—*Improved Clothes-Rack*.—Patent dated January 12, 1858.—A A represent the two main or centre standards, and A¹ A¹ A A, the end standards—two on each side. Attached to the face or outer side of the standards are bars D, each bar being at one end and attached to one of the centre standards, and at the other end attached to one of the end standards.

The inventor says: I am aware that various kinds of folding frames or clothes-horses have been invented, and also hanging frames, with jointed connexion bars and tension racks; but these all differ widely from my invention, and I do not claim any of them.

But I *claim* the adjustable standards A and A¹, in combination with the pin-jointed bars D D, for the purpose of supporting clothes and rendering the clothes-horse capable of adjustment, and of folding and unfolding, substantially in the manner and for the purposes set forth.

No. 20,974.—GEORGE YOUNG, jr., of Saratoga Springs, N. Y.—*Improved Clothes Rack*.—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement of the folding timbers *b b b* with the central timber *a*, by which the said folding timbers, when extended, form supporting legs, in combination with the lower arms *d d*, widened for the reception of the supporting pins, in the manner and for the purpose set forth.

No. 21,131.—A. A. HARRIS, of Ravenna, Ohio.—*Improved Clothes-Rack*.—Patent dated August 10, 1858.—This invention consists in having radial arms *d* jointed or pivoted to hubs *c* in such a manner that the arms will be supported by the joints or attachments to the hub, the hubs being placed loosely on a staff *A* so as to revolve, and at equal distances apart, so as to form a series of horizontal and parallel frames, and having the outer ends of the arms pivoted to vertical bars *f*, so that the frames when not in use may be folded together in sections from a horizontal position by raising the radial arms or sections, so that one or more of these sections may be in use while the rest are folded up.

The inventor says: I do not claim the employment or use of folding or expanding arms broadly or irrespective of the arrangement shown and described.

But I *claim* the radial arms so jointed or pivoted to hubs that they will be supported by the joints or attachments to the hub, the hubs being loose on the staff so as to revolve, and at equal distances apart to form a series of horizontal and parallel frames, each of which series may be folded up separately, and the whole be adjusted vertically by the main staff, as set forth.

No. 19,373.—WILLIAM D. LUDLOW, of New York, N. Y.—*Improvement in Refrigerators*.—Patent dated February 16, 1858.—A is the outer chamber containing chamber for water, &c.; B an inner one rising vertically from the floor of the former to contain ice; the mouth of the chamber B is hermetically closed by means of an annular India-rubber gasket E and a lid F, the latter being secured by a button or key D pivoted to its centre, and engaging with lugs C C.

Claim.—The provision substantially as described of an hermetically closed or sealed ice reservoir within or in connexion with a vessel containing water, or any other matter to be cooled or kept cool.

No. 19,837.—WILLIAM FERRIS, PHILIP GARRETT, and JAMES MEGRATTEN, of Wilmington, Delaware.—*Improvement in Refrigerators*.—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim the outer and inner boxes or cases, nor their combination.

Neither do we claim filling the space between the inner and outer box with any composition or matter which may be a non-conductor of heat.

But we *claim* the combining the third or inner box or frame *o o o o* with the interior of a refrigerator, as shown, so that a perfect circulation of cold air may be kept up in the interior of the box or case *o o o o*, and also around it, as shown and set forth.

No. 20,621.—JOHN D. BURTON, of Charlestown, Massachusetts.—*Improved Refrigerator*.—Patent dated June 22, 1858.—This refrigerator is constructed with an ice receptacle A arranged in its upper part; below this are chambers B C D E separate from one another. From the ice chamber A a cold air passage or pipe F is led downward

and into each of the refrigerating chambers and terminates near the bottom of the same, and so that cold air from the ice receptacle may pass down through such passage F into the refrigerating chamber, each chamber being furnished with such a pipe F.

Claim.—The arrangement of the separate refrigerating chambers, the ice chamber, and the air passages leading from the latter into the separate refrigerating chambers.

No. 20,907.—NATHANIEL WATERMAN, of Boston, Massachusetts.—*Improved Refrigerator.*—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the arrangement of the air supply and discharge pipes with respect to the case and its refrigerating chamber, in which arrangement the supply pipe or pipes are disposed within the refrigerating chamber, while the discharge pipe or pipes are disposed outside of the same in manner as specified.

I also claim the combination of a series of grooves or an auxiliary space or spaces, and a discharge pipe or their equivalents with the metallic bottom or lining of the refrigerating chamber, and arranged under the same and within the case or the stopping or bottom part of such case.

I also claim the arrangement of a space H within the cover of the refrigerator, as described, and around the odor discharge pipe G, the same being to operate in the manner and for the purpose set forth.

No. 20,895.—HENRY REHAHN, of New York, N. Y.—*Improved Refrigerator.*—Patent dated July 13, 1858.—The nature of this improvement will be explained by reference to the claim and engravings.

The inventor says: I do not claim circulating the air through the ice and through the refrigerating chamber, as that has heretofore been done.

But I *claim*, in combination with the ice-box C and ventilator arranged near the top of the refrigerator box, the centrally located cold air tube for carrying the cold air from said ice-box down to or near the bottom of the refrigerator, and admitting it into the refrigerating chamber D and in between the inner and outer cases, thence it ascends and escapes through the register, substantially as set forth and described.

No. 21,897.—JAMES NAUGHTEN, of Cincinnati, Ohio.—*Improved Refrigerator.*—Patent dated October 26, 1858.—This invention relates to an improvement in refrigerators for preserving meats, &c., and consists in a peculiar arrangement whereby the warm air is prevented from entering the ice compartment when the door of the refrigerator is opened, thereby causing a saving of ice.

Claim.—The combination of the valves H I and rods M K, arranged and operating substantially as and for the purposes set forth.

No. 21,977.—BENJAMIN M. NYCE, of Kingston, Indiana.—*Improved Refrigerator.*—Patent dated November 2, 1858.—This invention has reference to the construction and arrangement of refrigerating and

preserving rooms or apartments, within which a desired even temperature can be maintained without material variation, and the most perfect desiccation produced.

The inventor says: I *claim*, first, the employment of the fan K, when arranged as set forth, for producing a circulation of the contained air, so as to bring it in immediate contact with the lime or other desiccating composition for the purposes specially set forth.

Second. I claim the peculiar construction of the beam T; that is to say, I claim the metal bar *x*, the insulating beam *v*, the trough *y*, and supporting beam U, all arranged for the purposes and in the manner described.

Third. I claim the partition O, when arranged and operating substantially in the manner and for the purposes set forth.

No. 22,104.—ABEL H. BARTLETT, of Spuyten Duyvil, New York.—*Improved Refrigerator*.—Patent dated November 23, 1858.—J J show the outer casing of the refrigerator, and *h h* the inner case; O O the space between the inner and outer casings; C C is the ice receptacle; D is the ice, and S slats for the support of the ice; M is a door which opens into the ice receptacle; *c*¹ is the lower angle of the ice receptacle, which contains the ice water.

Claim.—The wedge-form and position of the ice and water receptacle D and *c*¹, dividing the provision chambers B B, arranged substantially as and for the purposes specified.

No. 22,127.—ADOLPHUS LIPPMANN, of New York, N. Y.—*Improved Refrigerator*.—Patent dated November 23, 1858.—This invention consists in a series of coiled pipes, which emanate from the sides of the ice chamber in such a manner that they descend between the two walls of the refrigerator, where they are surrounded by some non-conducting material, so that when the same are connected at their ends to another coil which extends through a central tube from top to bottom of the refrigerator, and back into the ice chamber, the cold air from this chamber is caused to descend through the first named series of coiled pipes, and to ascend and flow back to the ice chamber through the central coil, and so that, by such circulation of the air, the temperature in the refrigerator may be brought to a very low degree with a comparatively small amount of ice.

Claim.—The described arrangement of a series of coiled pipe E which emanate from the ice chamber C, and which are carried down between the two walls *a* and *b* of the refrigerator to a central coil G, substantially as and for the purposes specified.

No. 19,432.—CHARLES A. McEVoy, of Richmond, Va.—*Improvement in Table Refrigerators*.—Patent dated February 23, 1858.—A is the ice dish, accessible from the top; B B are two tubes through which the drip water from the dish escapes into the compartment *c c*, from which it is emptied through the holes D D; E is a large hollow space beneath the dish, the object of which is that it may be placed over a dish that may require cooling.

The inventor says: I do not use nor do I claim double air-tight sides, such as are used in water or ice pitchers.

But I *claim* a combined ice-dish and cover cooler, constructed as described, with the tubes or outlets B B, in connexion with the ice-pan A, an annular space c c, and having the apertures D D in the external casing, the several parts being relatively arranged as and for the purpose specified.

No. 21,337.—WILLIAM HEATH, of Lincoln, Me.—*Improved Sad Iron Heater Cover*.—Patent dated August 31, 1858.—This invention consists in the production of a cover for the sad-iron heater, which, while it in a measure protects the handle of the iron from the heat, serves to confine the heated air around the body of the iron and contribute materially to its more rapid heating.

Claim.—The described cover for sad-iron heater, constructed and operating in the manner substantially as described.

No. 20,815.—JOHN G. PERRY, of South Kingston, R. I.—*Improved Sausage Filler*.—Patent dated July 6, 1858.—To operate this improved filler the cases are put on the tube or nozzle G, which are made of different sizes for different kinds of cases or bags, when the lever C being raised until the head of the piston D is out of the cylinder, the meat is to be put in, and by pressing down the lever it is forced out into the cases which are drawn off of the nozzle by the operation.

Claim.—The combination of the tube or nozzle with the curved cylinder, for the purposes set forth substantially as described.

No. 21,965.—R. V. JONES, of Johnstown, Pa.—*Improved Sausage Machine*.—Patent dated November 2, 1858.—A is the hopper into which the meat is deposited, which is at once received by the flanged cylinder B; said flanges having a twisted form in order that as the cylinder revolves the meat may be pressed upon and cut or sheared off by the knife D. The knife D has a series of hooked or V-shaped teeth, and is placed at the bottom of the concave cylinder, and secured to its place by wedges H, or by means of set screws if desired.

Claim.—The arrangement of flanged cylinder B with a knife D having hooked or V-shaped teeth, substantially as and for the purpose specified.

No. 19,106.—ANDREW STEVELEY, of New Haven, Conn.—*Improved Scissors Sharpener*.—Patent dated January 12, 1858.—The engravings and claim show the nature of this invention.

Claim.—An instrument or tool formed by securing a file or other cutting edge or edges at a proper angle variable or otherwise to the side of a plane surface, so as to form a cheap and efficient sharpener for all sizes of shears and scissors for family use, when combined and fitted for use substantially as set forth.

No. 19,467.—GEORGE HINMAN, of New Haven, Connecticut, assignor to Himself and JOHN H. PARDEE, of said New Haven.—*Improved Scissors Sharpener*.—Patent dated February 23, 1858.—This improve-

ment consists in so constructing the sharpener that the cutter B and guide C may be readily adjusted to any required angle, either by having the cutting blade moved and secured by a cam lever D, to adjust the angle with a stationary or fixed guide, or by having the guide susceptible of being moved to adjust the angle with a stationary or fixed cutting blade, for the purpose of suiting it to the bevels of the cutting edges of any kind of scissors or shears.

Claim.—Making or producing a scissors sharpener as a new article of manufacture, when constructed and made to operate substantially in either of the ways particularly described and set forth.

No. 19,784.—JOHN C. LOVELAND, of Springfield, Vermont.—*Improved Scissors Sharpener.*—Patent dated March 30, 1858.—The file B is placed in the box *b*, the stud *g* projecting up into the hole *f*; the cap C is placed on top of the file, with its notch 7 corresponding to the notch 6 of the rim *c*; the screw *i* is then entered and screwed down tight on to the cap C. The scissors is pressed with its flat side against the edge 5 of the guide *d*; it is then drawn a few times over the edge of the file.

Claim.—As a new article of manufacture, the described instrument for sharpening scissors, consisting essentially of the revolving file B and guide *d*, constructed and operating in the manner substantially as set forth.

No. 21,868.—SAMUEL M. BARNETT, of New Orleans, Louisiana.—*Improved Scrubbing Machine.*—Patent dated October 26, 1858.—This invention consists in having a tri-lateral frame provided to a vertical arbor, to which a brush is attached, the frame being also provided with adjustable bars to which small brushes or wipers and mops are secured; the frame being mounted on casters, provided with soap and water reservoirs, arranged so that the operation of scrubbing is done quickly and in a perfect manner.

Claim.—The tri-lateral frame A, provided with the soap and water boxes *d e*, arbor B with brush C attached, and the movable bars G with brushes and sponges *m n*, either or both, or their equivalents, attached; the whole being arranged as and for the purpose set forth.

No. 20,018.—FRANCIS A. CANNON, of Brooklyn, New York, assignor to JOHN PHILLIPS, of said Brooklyn.—*Improved Smoothing and Polishing Iron.*—Patent dated April 20, 1858.—A in each figure represents the body of the iron; *a a* are the notches for the reception of the catch D; B B are the rollers or cylinders, varying in size according to the size of the iron, and projecting beyond the surface; C is the frame of the handle; D is the catch to hold the iron in position; F is a slot in the frame in which the catch acts; G G are pivots upon which the iron revolves in its frame or handle.

Claim.—The application and arrangement of rollers or cylinders to smoothing and polishing irons as described, by which a high degree of polish is imparted to linen and other fabrics with the least expenditure of muscular power.

No. 20,445.—ABRAHAM RUDISILL, of York, Pennsylvania.—*Improved Smoothing Iron*.—Patent dated June 1, 1858.—A A A represents a movable handle, by means of which the same smoothing iron may be used both with a flat or concave surface. B is a spring to keep the handle in its place. C C contain holes into which the handle slides when the concave surface is used. D D contain holes into which the handle slides when the flat surface is used.

Claim.—The smoothing iron with concave pressing surface, constructed substantially as described.

No. 20,451.—WILLIAM STAEHLEN, of Williamsburgh, New York.—*Improved Spittoon*.—Patent dated June 1, 1858.—This invention consists in having the treadle *c* of the spittoon, which actuates its lid, so placed relatively with a loaded base *e* that the spittoon will be prevented from upsetting when the treadle is depressed by the foot for the purpose of raising the lid.

The inventor says: I do not claim a lid attached to the spittoon, and so arranged as to be actuated by a treadle, for such device has been previously used or applied to spittoons.

But I *claim* arranging the treadle *c* relatively with the loaded base or foot *e*, substantially as and for the purpose set forth.

No. 21,799.—THOMAS J. MAYALL, of Roxbury, Massachusetts, assignor to Himself and BENJAMIN F. COOKE, of Boston, Massachusetts.—*Improved Elastic Stair Pad*.—Patent dated October 12, 1858.—This stair pad is made of the following composition: 1 pound India-rubber; $\frac{3}{4}$ pound pulverized alum; $\frac{3}{4}$ pound white lead; 2 ounces sulphur. A is the step; B the elastic pad; C the carpet. The edge of the pad at *a* is so formed as to bend over and clasp the front edge of the step, whilst the other edge *b* gradually tapers off thin, leaving the part on which the foot more directly rests in ascending the stairs somewhat thicker; this gives the required degree of elasticity, whilst the part turned over the front edge of the step protects the carpet from contact with the wood at the place where it is soonest worn or cut out.

Claim.—As a new article of manufacture, the above described "Elastic Stair Pad," of the composition and form substantially as set forth.

No. 22,301.—F. H. MOORE, of Boston, Massachusetts.—*Improved Stair Sweeper*.—Patent dated December 14, 1858.—This invention consists in operating the brush within a box or cover, which prevents the escape of the dust.

Claim.—The combination of the box B and brush E with the dust pan C, arranged and operating in the manner substantially as described, whereby the dust is prevented from escaping, as set forth.

Second. And in combination with the above I claim the curtain F, operating substantially in the manner specified.

No. 21,633.—WILLIAM H. TROWBRIDGE, of Saginaw, Michigan.—*Improved Embroidering and Sewing Stand*.—Patent dated September 28, 1858.—This improvement consists of a plate *m* of iron of conve-

nient thickness and six inches square, upon which plate, near the edge, are fixed two springs *e*, by means of which springs, pressing upon said plate, the needle is to be held; said springs *e* are held by the iron plate *m* by two screws *o* and *i* to each spring, so that by raising or lowering the forward screw *i* the tenacity of the spring is increased or diminished as convenience may require.

The inventor says: I do not make any claim to the invention of the spool rack, or to the work-box and its appendages.

But I *claim* the combination of the plate *m*, the spring *e*, the screws *o* and *i*, the thumb-screws *g*, the box *d*, the spool rack *k l*, arranged substantially as described for the purpose specified.

No. 21,275.—HENRY A. ROBERTS, of Hartford, Conn.—*Improved Ice Stand*.—Patent dated August 24, 1858.—The nature of this invention consists in the mode of construction and in the application of a receptacle or stand, on which blocks of ice are placed for refrigerating purposes, to be used in any locality, or in or independent of a refrigerator.

Claim.—As a new article of manufacture, an ice stand with convoluted angular-shape drip supports *A*, constructed and arranged in an adjustable frame *F* with the cross channel *C*, flexible discharging tube *D*, rollers *E*, substantially in the manner and for the purpose described.

No. 20,088.—MICHAEL QUIGLEY, of Watertown, N. Y.—*Improved Convertible Extension Table*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* securing the leaf *A* to the legs *a' a'*, and leaf *E*, as described, for the purpose of forming an extension table, the leaves of which are folded in a perpendicular position, as fully set forth.

2d. The arrangement of the case *C*, as constructed with the inclined brackets *c c*, for the purpose of forming a convenient receptacle for stationery, and for the purpose of completing the bed of the table when required, substantially as set forth.

No. 20,530.—GEORGE PRATT, of Boston, Mass., assignor to JOHN A. ELLIS, of Cambridge, Mass., and J. E. HAZLETON, of Newton, Mass.—*Improved Extension Table*.—Patent dated June 8, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim a spring catch nor the mere duplication of such.

But I *claim* the combination of the auxiliary turning stop *h* and its recess *g*, or the equivalent thereof, with the main stop *f*, applied to one of the slides and the rebate made in the other, the whole being as and for the purpose described.

I also claim the combination and arrangement of the two spring catches *m n*, catch bars *q r*, and the space *p*, whereby, during the motion of the supporter *S* on its hinges, one catch is made to pass between the two catch bars, and one catch bar to pass between the two catches.

No. 20,489.—WILLIAM HEERDT, of New York, N. Y.—*Improved Extension Table*.—Patent dated June 8, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim broadly the employment or use of metal plates in the construction of slides or guides for extension tables, for they have been previously used, although, so far as I am aware, not in connexion with wooden bars.

But I *claim* the metal plates *a b*, attached to the upper and lower surfaces of the bars *B B¹ C*, swaged or so formed as to be provided with ledges and grooves *c d*, which fit one into the other, the whole being arranged as and for the purpose set forth.

No. 22,224.—ADOLPHUS BADER, of New York, N. Y.—*Improved Extension Table*.—Patent dated December 7, 1858.—This invention consists in arranging a number of additional plates on arms which slide under the table top, said arms being made of such a shape and form that when they are drawn out half way the plates which are supported by the same are brought to form a continuous plane with the stationary top, thereby doubling the area of the table, and that when the arms are wholly drawn out the plates which rest on them may be unfolded and brought in the same plane with the stationary top, so that the area of the table is increased threefold. The arms are provided with springs and guide-pins, which move in suitable grooves, and which serve to guide the arms and keep them in their proper places during the operation of drawing them in and out.

The inventor says: I *claim* the arrangement of additional plates *F G* in arms *E*, of such a shape and form that by drawing out the arms the plates are brought to a level with the top of the table, substantially as described.

I also claim confining these arms at the proper places by means of the notches *f* and the hook *g¹*, and to guide the same by means of pins *c* and notches *d*, substantially as specified.

No. 22,294.—CHARLES LAMMICH, of New York, N. Y.—*Improvement in Folding Table*.—Patent dated December 14, 1858.—The nature of this invention consists in combining with the hinged top, folding legs fitted in such a manner that the table, when distended or opened for use, shall be firm and rigid, and when folded together for transportation, or otherwise, occupies but small space, the legs shutting together and folding down closely against the table.

Claim.—The folding legs *a a*, combined with and hinged on to the bed or top of the table, in substantially the manner and for the purposes specified.

No. 19,390.—WILLIAM VANDENBURG and JAMES HARVEY, of New York, N. Y.—*Improved Ironing Table*.—Patent dated February 16, 1858.—To put on the garment to be ironed, the catch *G* is drawn off the board, which is then instantly lifted to the position by the spring *d* and stud *H*, in which position the garment can be easily put on over the end *d*. When the garment is on, the board *C D E* is depressed

by the operator till it rests on the upright B, when the catch G springs forward and retains it.

The inventors say: We *claim* an ironing table composed of a stand of suitable form, having the board hinged or pivoted to it at one end, and a suitable support for the same at the other, with a spring or its equivalent applied to raise the board from its support, the whole being combined to operate substantially as described.

No. 19,883.—WILLIAM VANDENBURG, of New York, N. Y.—*Improved Ironing Table*.—Patent dated April 6, 1858.—In operating this improved table, when a shirt, or other article which is double, has been put upon the board, the movable piece F is moved down to the position shown in the engravings, where it offers no obstacle to the passage of the article over the end C of the board, the said piece is raised by the hand to an upright position to support the said end, and allowed to remain so till the article has been ironed, and it is desired to remove it from the board.

Claim.—The ironing table, composed of a board rigidly attached at one end to a stand, which is provided with a movable support for the other end of the board, to operate in the manner and for the purpose specified.

No. 20,231.—WILLIAM VANDENBURG, of New York, N. Y.—*Improved Ironing Table*.—Patent dated May 11, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The ironing table, composed of a board attached to one end of a stand in such a manner as to be capable of moving horizontally thereon to and from the other end of the stand, that it may be supported at both ends during the ironing operation, but permitted to have a garment passed over one end before and after the ironing operation, in the manner specified.

No. 19,773.—GEORGE W. HAGEY, of Smithland, Conn.—*Improved Self-Waiting Table*.—Patent dated March 30, 1858.—The shaft C is fastened to revolving part B, the centre pillar D is made hollow, and provided with a socket E to support shaft C, and a collar G to steady the shaft while revolving. The handles F will revolve the part B.

Claim.—The handles F, for the purpose of turning the table, and to which a table cloth may be buttoned, substantially as described.

No. 21,832.—JACOB S. HASKELL, of Salem, Massachusetts.—*Improved Writing Table*.—Patent dated October 19, 1858.—The support of this table may be of any suitable form or design, to which the body of the table is fastened by a circular bolt, upon which it may freely turn. In this table there is one large drawer and ten small ones, all moving in the lines of the respective radii which pass through their centers.

Claim.—The arrangement of the circular bolt with, and for fastening of the several drawers, substantially as and for the purposes specified.

No. 21,885.—ALEXANDER KINKEAD, of Washington county, Ohio.—*Improvement in Dining and other Tables*.—Patent dated October 26, 1858.—The nature of these improvements consists in the arrangement and combination of an ordinary dining or other table with an adjustable receptacle, rotating tablet, and an upwardly folding hinged disk.

Claim.—The combination and arrangement of the adjustable drawer or chambered rotating tablet L L², and with the hinged upwardly folding desk J J K K, when constructed as shown, and used with a dining or other table, for the purposes substantially in the manner set forth and described.

No. 22,086.—JAMES M. MESCHUTT, of New York, N. Y.—*Improved Tongs for coal, &c.*—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

Claim.—As a new article of manufacture, the metallic tongs for coal fires, &c., constructed with fingers or curved prongs and the projections for the purpose of preventing the fingers coming too closely together, substantially as specified.

No. 22,070.—BARTHOLOMEW ESSIG, of Pittsburgh, Pennsylvania.—*Improved Vegetable Cutter and Coffee Mill combined*.—Patent dated November 16, 1858.—The nature of this invention consists in a novel mode of combining a rotary cutter for cutting and slicing vegetables, such as cabbage, turnips, onions, apples, and other vegetables used in cookery, with a coffee or spice mill, in such a manner that either the cutter can be operated and the mill be set out of gear, or that the mill is operated when the cutter is disengaged.

Claim.—The mode of arranging and combining a vegetable cutter and a coffee mill in such a manner that, by means of the sliding shaft B, either of the two may be set in or out of gear, substantially as set forth.

No. 20,473.—SILAS M. BARRETT, RUFUS S. LEE, and JABEZ M. WATERS, of Cincinnati, Ohio.—*Improved Washboard*.—Patent dated June 8, 1858.—The nature of this invention consists in providing the edges of the sheet of metal with teeth *d d d d*, so arranged to the edges of the sheet that the width of the teeth will be parallel with the grain of the wood composing the legs A A of the board in which they are incised, and be made at the top and bottom of the corrugations of the plate, as shown in the engravings.

Claim.—The teeth *d d d d*, made and arranged, as represented, to the edges of corrugated sheets of metal for washboards, for increasing and holding the edges of the sheet of metal in and to the sides of the legs of the board, as represented, and for the purposes mentioned and described in the specification.

No. 20,644.—JOSEPH KEECH, of Waterloo, New York.—*Improvement in Washboards*.—Patent dated June 22, 1858.—The nature of this invention consists in the construction of washboards with a convex beaded rib R running from top to bottom through the centre of the board, said rib being grooved on each side for the reception of the

corrugated washing surface B, and serving the purpose of giving strength to the board.

Claim.—The combination of the central beaded rib R with the corrugated plates B B, constructed, arranged, and operating substantially as and for the purposes set forth.

No. 22,087.—JOHN MINER and SILAS MERRICK, of New Brighton, Pennsylvania.—*Improved Washboard*.—Patent dated November 16, 1858.—The nature of this invention consists in so striking up from sheet metal the usual ribs of a washboard that there shall be left an entire border or narrow space upon the four sides of the corrugated metal plate that shall be plain and not corrugated, so that the groove in the wooden frame which receives the four edges of the metal plate shall be only of the same thickness as the plain part of the metal plate itself.

Claim.—We are aware that it is not new to strike up in a mould or die the metal plate of a washboard, to make raised and depressed figures in general, or even the rib work described; nor yet to make a metallic crimped plate without a support or brace in the back side thereof.

But we contend that it is new to stiffen a crimped metallic plate of a washboard by confining the crimped portion within the frame, so that the plane border only shall be received into the narrow groove of the frame, provided the corrugations or ribs be so formed as to project equally on both sides of the medial line of the plate, so that each side of the plate shall be equally braced by the crimping of the metal, and consequently be equally adapted to washing on both sides.

We disclaim the general device of making a crimped metal washboard with a plane border received into a plane groove in a frame.

But we claim so impressing the corrugations equally upon both sides of the plate that the medial or central line of the corrugated part of the plate may be in a line with the plane border *c c*, and that the ribs shall project equally on both sides, forming two equally good washing surfaces, as set forth.

No. 22,053.—JOHN ADAMS, of Pittsburgh, Pennsylvania.—*Improvement in Washboards*.—Patent dated November 16, 1858.—A represents a wooden frame, which is constructed similarly to the frames of the ordinary washboards, *a a* being two side pieces, *b b¹ b²* are cross pieces at their upper and lower parts, and *c* a box or receptacle for soap. B is the rubber, or corrugated portion, against which the clothes are rubbed. This rubber is constructed of glass, and is pressed in a mould of proper form.

Claim.—As a new article of manufacture, a washboard having its rubber B composed of glass, as and for the purposes shown and described.

No. 20,428.—FRANCIS W. HAMILTON, of Conshohocken, Pennsylvania.—*Improved Combined Washstand and Night Stool*.—Patent dated June 1, 1858.—When a night stool is required the lid H, with its

drawer I, is raised, the door G opened, the lid F raised, and a suitable vessel placed in the opening of the seat E.

Claim.—The seat E, as enclosed within a body or casing composed of the back B, the two sides C, and the door G, in combination with the lid H and its drawer I, the whole being arranged substantially as and for the purpose specified.

No. 19,694.—CHRISTIAN GIES, of New York, N. Y.—*Improved Water-tight Washstand.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the raised flange, ridge, elevation, or projection upon the basin *c*, in combination with the countersunk marble slab *b*, to fit such flange for the purpose set forth.

Second. I claim the cap-like attachment upon the faucet D, fitting closely over the projection upon the marble slab, through which the faucet passes, for the purpose set forth.

No. 19,037.—SAMUEL P. MECAY, of Killbourn, Ohio.—*Improved Washing Machine.*—Patent dated January 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that reciprocating washboards have been previously used, and arranged in a great variety of ways, and I therefore do not claim, separately, either of the parts shown.

I *claim* the arrangement and combination, as shown, of a lever D, washboard B, arm F, and dashboard G, so that, by the movement of lever D, the boards B G will simultaneously approach each other and act upon the clothes, each board doing its share of the work; and, by a reverse movement of lever D, the boards B G will simultaneously separate and leave an open space for the admission or removal of the clothes.

No. 19,181.—NICHOLAS BENNET, of New Lebanon, New York, assignor to DAVID PARKER, of Shaker Village, New Hampshire.—*Improved Washing Machine.*—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The arrangement of two or more washing chambers with a travelling frame carrying two or more rubbers, one for each chamber, said travelling frame resting on, and supported by, the sides of the washing chambers, as set forth, for the purpose of washing several kinds or qualities of clothes at the same time, without allowing the suds or water in one chamber to flow or be dashed over into the next one to it, as described.

No. 19,257.—W. W. NEAL, of Yellow Springs, Ohio.—*Improved Washing Machine.*—Patent dated February 2, 1858.—By turning the winch B a reciprocating motion is communicated to the rubber G, and, at the same time, while the front end thereof remains nearly at a constant height, the rear end is alternately raised and lowered by the direct action of the crank; thus both a rubbing action and an intermitting pressing action are produced simultaneously on the clothes—the best that can be adopted. By allowing one end of the rubber to

simply move backward and forward the position of the clothes is continually changed, so as to subject different surfaces to action.

Claim.—The arrangement and combination of the rubber G, connecting bar E, crank D, yielding standard n , or its equivalent, and yielding suspending rods H H, substantially in the manner and for the purposes described.

No. 19,299.—EDWARD JULIER, of McConnellsville, Ohio.—*Improved Washing Machine.*—Patent dated February 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The construction and arrangement of the sliding carriage, composed of the side pieces $q\ q\ q\ q^2\ q^2\ q^2$, the compensating yoke $y\ y$, the pressure spring piece $z\ z$, the plain roller U, the ratchet roller V V X X, the compensating roller W W, the staff rod k^2 , and notched pressure beam and weight $L^2\ L^2\ n^2$, combined and operating together with the driving pitman rod $b^2\ b^2$, as set forth.

I also *claim* the jointed shoulder pieces $d^2\ d^2$, the elbow lengths $e^2\ e^2$, and forearms $f^2\ f^2$, when arranged and combined as set forth, and operated in connexion with an ordinary washtub or board.

No. 19,315.—W. H. TAMBLING, of Berlin, Wisconsin.—*Improved Washing Machine.*—Patent dated February 9, 1858.—The nature of this improvement will be understood by reference to the claim and illustrations.

The inventor says: I do not claim the employment or use of corrugated and plain cylinders or rollers in washing machines, for they have been previously used.

Neither do I claim placing said rollers in elastic or yielding bearings, irrespective of the arrangement shown, whereby the bearings of the cylinder B may be rendered either elastic or permanent, as desired.

But I *claim* the combination of the corrugated or fluted cylinder B, and elastic or yielding frame C, provided with rollers l , when the bearings c of the axis a of the cylinder B are fitted in an elastic or yielding and adjustable frame, and the whole arranged as shown, for the purpose set forth.

No. 19,474.—BENJAMIN R. SMITH, of East Whiteland, Pennsylvania, assignor to JOHN HELLINGS, of West Whiteland, Pennsylvania.—*Improved Washing Machine.*—Patent dated February 23, 1858.—By turning the lever sidewise and resting it on the queen post Q, by raising the lever A the worker is lifted and pushed back on the guides and bearers which puts the machine out of working position, by which means the clothes and water can be put in. When done draw the lever towards you, letting the gudgeons G G drop into their proper places, which puts the machine in working order; then, by working the lever up and down the clothes are pressed, rolled and rubbed.

Claim.—The combination of the guides and bearers with the seat of the queen post, and the lever hook F, as before set forth, for the shifting of the movable worker from its concave bed.

No. 19,609.—HENRY LAWRENCE, of Newark, Ohio, assignor to Himself and J. M. CONNELL, of said Newark.—*Improved Washing Machine*.—Patent dated March 9, 1858.—The nature of this improvement consists of an oscillating box B, having a curved bottom in combination with a stationary piece or frame F for securing the clothes, and a system of rubbers above this frame and moving over it by the oscillation of the box B.

The inventor says: I do not claim oscillating boxes for washing machines, broadly considered.

But I *claim* the combination as described of the stationary clothes-holder *f*, with the oscillating box B, and flexible rubbing system connected therewith, and made to pass over the said frame *f*, substantially as set forth.

No. 19,653.—JAMES ROBB, of Lewistown, N. Y.—*Improved Washing Machine*.—Patent dated March 16, 1858.—In the drawings, *a a* are the side pieces, *b b* are the cross pieces, and *c* the centre brace of the frame. Over this frame is stretched the rubber R of cloth, or the rubber R¹ of fine wire gauze. The pins *f* hold the rubber on the frame.

The inventor says: I do not claim, broadly considered, the employment of a flexible base on which to wash clothes.

But I *claim* the combination of the open frame *a b c*, with their movable flexible casing R or R¹, constructed and operating substantially as and for the purpose set forth.

No. 19,634.—LEWIS HANNUM, of Homer, N. Y.—*Improved Washing Machine*.—Patent dated March 16, 1858.—This invention consists in construction and arrangement within the periphery of a tub of the cross board B, through which the stem F passes for operating the rubbing disk D, said board being provided with projecting stubs or pins on the one side and a swivel bolt on the other for entering suitable recesses within the periphery of the tub.

Claim.—The employment of the projections *ff* in the bottom of the tub in combination with the knuckles on the under side of the disk, as set forth substantially in the specification.

No. 19,788.—JAMES McVICKER, of Green county, Pennsylvania.—*Improved Washing Machine*.—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Forming a receptacle within the wash-box for containing the clothes to be steamed preparatory to their being washed by means of the ribs or slats *m*, attached to the wash-box, and the ribs or slats *r*, attached to the lid P, so that upon opening the lid of the wash-box the receptacle also is opened for the introduction or removal of the clothes, substantially as described.

No. 19,911.—HENRY CASSELL, of Fredericktown, Ohio.—*Improved Washing Machine*.—Patent dated April 13, 1858.—This machine is operated thus: The clothes are placed in the tub B and a requisite quantity of soap and water placed therein. The pinion *f* is thrown in gear with the teeth on the upper edge of the tub. By turning the

shaft F the tub is rotated, the belt h rotating the pinion f . As the shaft rotates, the catches or pawls w act against the hooks u and draw upward or raise the pounders J J, and as the catches or pawls pass underneath the upper part of the spring M they are depressed in their grooves and the hooks u are liberated, the pounders being forced down upon the clothes within the tub by the springs r . The two pounders are raised and lowered alternately.

Claim.—The arrangement of the spring pawls w and grooves v on the shaft F, and these arranged with the hooks u for elevating the pounders and the spring M, for purposes mentioned in the specification

No. 20,101.—EDMUND THARP, of Cincinnati, Ohio.—*Improved Washing Machine.*—Patent dated April 27, 1858.—This invention consists in the combination of a trough of quarter spherical form with a vertical rotating disk, by means of which a gyratory motion is imparted to the materials to be washed, and all parts are successively subjected to compression and rubbing.

Claim.—The arrangement and combination, substantially as set forth, of the vertical rotating disk D and quarter spherical trough C, for the purpose explained.

No. 20,099.—CHARLES M. SWANY, of Richmond, Indiana.—*Improved Washing Machine.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not broadly claim either set of rubbing surfaces shown, when separately considered, as analogous devices are separately in use.

But I *claim*, first, such a construction and arrangement of the disk B and rubber case with the tub, that the disk and rubber case are free to move in opposite directions simultaneously, the above being made and fashioned substantially as shown and described.

Second. I claim the manner shown of arranging the rubbers or ribs upon the horizontal rubbing surfaces of the disk and rubber case, for the purpose of keeping the clothes in place during the process of washing.

No. 20,123.—HENRY YOST, of St. Louis, Missouri.—*Improved Washing Machine.*—Patent dated April 27, 1858.—A is a tub, $j j$ is the rubber rack, and $f f$ are the spring bearings upon which the said rack is fixed, the said springs being coiled around, which reach through the rack, whereby it is held in a given position; $c c c$ are the cross-bars composing the rack and d is the canvas with which it is covered. B is the revolving rubber, which is fluted and covered with canvas.

Claim.—The traversing rubber in connexion with the yielding rack j , over the surface of the water in the manner described.

No. 20,154.—ASHMAN HALL, of Dansville, New York.—*Improved Washing Machine.*—Patent dated May 4, 1858.—This improvement relates to that class in which the clothes are scrubbed by being passed between two or more sets of rubbers, all of which may receive motion.

As the clothes are drawn between these rubbers they are folded or plaited longitudinally, and the rubbers press these folds down as they pass over and only rub one side; hence it is necessary to change the position of the article while being washed, and pass and repass it through the machine in order that all parts may be subjected to the direct action of the rubbers. The object of this improvement is to displace or change the position of these folds in the clothes while under the action of the rubbers, to prevent the articles from being carried toward the edge or corners of the rubbers, and also to regulate or vary the pressure of the rubbers on the clothes at the will of the attendant without leaving the position in which he operates the machine.

The inventor says: I *claim*, first, constructing the slats or bars which form the rubbers with spiral grooved and ridged surface, for the purpose described.

Second. In arranging the spiral grooves and ridges formed on the slats so that they incline in opposite directions in each succeeding slat, for the purpose set forth.

Third. The combination of the dipping scoop with the vibrating rubber arranged as described for the purpose set forth.

No. 20,244.—DAVID E. ROHR, of Charlestown, Virginia, assignor to Himself and THOMAS W. DAVIS, of said Charlestown—*Improved Washing Machine*.—Patent dated May 11, 1858.—The articles to be washed are placed upon the squeezer or washboards I J J, when the crank is turned, and the rotating device *a* being revolved from left to right, the flutes or beads *e e e e* come in contact with the clothes as the washboard advances towards the beads, and while the device *a* is rotating around in the direction of the arrow over and under. The device or sliding scoop *h h* moves to and fro, or reciprocates back and forth; and thus while the device *a* has a continuous motion around, the sliding scoop device *h h* has an alternating motion.

Claim.—The construction of the fluted rotating device *a b c d*, the sliding reciprocating scoop *h h*, with fluted or grooved squeezer or washing board I J J, with yoke, beam, and pendant devices K K L L *m*, arranged, combined, and operating substantially as in the manner fully described.

No. 20,230.—MINER VAN AUKEN, of Chazy, New York.—*Improved Washing Machine*.—Patent dated May 11, 1858.—This is an improvement on that class of washing machines in which an oscillating and curved corrugated rubber is employed in a box with a corrugated bottom. The improvement is in the hanging of a rubber E, and in the employment of a board F to facilitate and aid the more perfect cleansing of the fabrics to be washed.

Claim. The adjustable stop board F, arranged at the rear end of the rubber in combination with the scroll terminating slots *i j* in the pendulous arms of the rubber E, substantially as and for the purposes set forth.

No. 20,369.—ABRAHAM QUIMBY, of Terre Haute, Indiana.—*Improved Washing Machine*.—Patent dated May 25, 1858.—The nature of this

invention consists in the combination of approximating plungers with the revolving tub, whereby the clothes are subjected to a continuous rotary action.

Claim.—The combination of the approximating plungers E E with the revolving tub A, whereby the clothes are subjected to a continuous rotary action, and at intervals to a squeezing or expressing action, and thereby thoroughly washed, substantially as set forth.

No. 20,365.—F. B. PRATT and F. TYLER, of Cleveland, Ohio.—*Improved Washing Machine.*—Patent dated May 25, 1858.—The brake F is fluted, as seen at F¹, to correspond with the fluting of the roller E, and is attached to the bearings c c by pin joints at c¹ c¹. The apron K being in place, the clothes to be washed are placed upon it at K, and the flap L laid over them, which prevents much of the wearing of the clothes by preventing them from coming in contact with the roller B.

The inventors say: We do not claim the parts named as new, separately considered.

But we *claim* the fluted brake F when attached to yielding bearings c c, parallel with fluted roller E, in combination with the united open flapped and endless aprons L K, and when arranged and operating in the manner and for the purpose set forth.

No. 20,408.—J. L. CONKLIN, sr., and JOSEPH FOUST, of St. Louis, Mo.—*Improved Washing Machine.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The construction and attachment of the rubber A, provided with parallel concave slats C C C, when combined and arranged with the concave provided with diagonal slats a a a, for the purpose of forming a washing machine, as is fully described.

No. 20,482.—EDWIN B. CLEMENT, of Barnet, Vt.—*Improvement in Washing Machines.*—Patent dated June 8, 1858.—A vibrating rubber I I I is made to work horizontally on the rollers D D D, by means of two slotted elbow brakes L L, and up and down by means of a foot brake V, which is adjustable for either foot, and spring and connecting rods U U, which enable the operator to rub hard or lightly any particular place of the article to be washed.

Claim.—The adjustable foot brake V, in combination with the slotted elbow brakes L L and connecting rods U U, the whole made and operating substantially as described, and for the purpose set forth.

No. 20,574.—BENJAMIN D. MORRELL, of Windham, Maine.—*Improved Washing Machine.*—Patent dated June 15, 1858.—By this improvement in tub washing-machines the rubbing board can be adjusted or raised or lowered, more or less, to suit the quantity and quality or texture of the clothes to be washed, and thus either a direct action of the rubber upon the clothes or simply the motion given to the water, by the circular vibration of said rubber, can be employed for removing the dirt from the clothes.

The inventor says: I do not claim holding the rubber down by a

spring and adjusting collar, nor do I claim a socket arranged below the bottom of the tub.

But I *claim* the fitting and adjusting up and down of the rubber D¹ over and within a hollow detachable metallic socket C, projecting up from the bottom of the tub by means of a central hole *b*, a revolving spindle D, and sliding collar G H, arranged precisely as specified and shown.

No. 20,732.—PERRY C. RUDE, of Morgantown, Va.—*Improved Washing Machine*.—Patent dated June 29, 1858.—This invention consists in the manner in which is arranged and combined the concave slotted rack with the center rib stationary, and the others hinged so as to spring from the end of the wash box, the object being to admit the water behind the rack, and when the plunger comes up against it the hinged ribs shall act as valves to force the water through the openings in the stationary ribs, and thus subject the clothes to the jets or streams of water in front of them as well as by the plunger in the rear.

Claim.—In combination with the plunger G, the concave rack formed of stationary ribs *f*, and hinged ones *g*, so that the water behind the rack shall be jetted through the openings *i* in the stationary ribs into the clothes, substantially in the manner set forth.

No. 20,791.—ROBERT H. HARRISON, of Laurel, Md.—*Improved Washing Machine*.—Patent dated July 6, 1858.—The strips *b c c*, *b c c*, *b c c*, are arranged within the surrounding bottom transversely across the machine, leaving spaces or openings between as at *d d d*. The lateral or side surroundings *e e e* are beaded, fluted, or grooved as at *f f f*, vertically or obliquely. The ends of the tub or receptacle part *a a a*, *e e e*, terminate in concave curves *g g g*. In the tub are used one or more hundred beaded, ribbed, or oval formed elastic or soft wood balls *i i i i*. The hand rocking lever *o o o* is connected at its lower extremity to the lower rail of the framing or stand K K, by a joint pin or fulcrum bolt P.

Claim.—The construction of a washing machine having a concave bottom *a a a a*, with a secondary grating-like or fluted bottom *b c c*, *b c c*, *b c c*, the slotted rocking lever *o o o r r*, and the corrugated balls *i i i i* or their equivalents, the whole constructed, arranged, and operated substantially in the manner as set forth and described.

No. 20,872.—B. F. GHORMLEY, of New Frankfort, Ind.—*Improved Washing Machine*.—Patent dated July 13, 1858.—The nature of this improvement consists in providing the box case with projecting lugs *c c*, so that they may be entered through notches *b b*, formed in the jaws of the pedestal, and allow of a ring being placed on the axle, and then admit of the descent of the jaws by lowering the truck frame; the aforesaid lugs, by passing behind the projecting edges, formed on the parallel faces of the jaws of the pedestal, will scarcely retain the box case between the jaws (yet allow of the slight vertical movement consequent to the use of the springs) when the weight of the truck frame *c c* is thrown on the axle.

Claim.—The combination and arrangement of the fluted and grooved roller B, and the cords *a a*, and roller C, with the hinged washboard D, springs *c c*, and temper screws *d d*, all being operated and constructed in the manner and for the purpose fully described.

No. 20,932.—WILLIAM BROWN, of Duncannon, Pa.—*Improved Washing Machine.*—Patent dated July 20, 1858.—This washing machine consists of a tub with a fluted concave bottom and a fluted rubber *b b*, which is hung above and vibrates over said bottom; the clothes are attached to the rubber so as to be washed between it and the concave tub bottom. The rubber is suspended by springs, so as to allow of any desired force being applied to the clothes without the necessity of the operator being compelled to bear the labor of lifting the rubber to apply said force.

The inventor says: I *claim*, first, the manner described of hinging the forward portion *b* of the rubber to the rear portion *b* of the same, for the purposes set forth.

Second. The manner described and shown of hinging the rubber *b b* to the uprights, in combination with the manner of suspending the uprights *a a* by means of slots, pivots, and springs, for the purpose set forth.

No. 21,216.—D. C. ROOD, of Altona, Ill.—*Improved Washing Machine.*—Patent dated August 17, 1858.—This invention consists in the employment of a hollow rotating cylinder and a yielding concave placed in a suitable box, the cylinder being provided with a flap or door, a fastening or catch, and covered with an inflated belt or thick fabric of any suitable material, the whole being arranged for the ready and effectual cleansing or washing of clothes, especially those kinds which require a peculiar treatment.

The inventor says: I am aware that rotating cylinders and concaves have been previously used and arranged in various ways for washing clothes, and I therefore do not claim broadly such device separately or in itself considered.

But I *claim* having the rotating cylinder B provided with a flap or door *f* and a flap or fastening *c*, and covered by an inflated band or belt or any suitable cloth or fabric *h*, in combination with the yielding concave D, provided with the corrugated board E and rollers *j j*, the whole being placed in a proper box A, and arranged substantially as and for the purpose set forth.

No. 21,175.—DAVID ALLAN, of St. Louis, Mo.—*Improved Washing Machine.*—Patent dated August 17, 1858.—In the engravings A is the dasher or plunger inserted in the tubs B B, connected with the beam C by the pitmans D D, and worked by the handle or brake E, supported by the post F. The top of dasher G is kept in the situation shown by a key or wedge H until the clothes are put on or moved from the dasher A. When the clothes are placed on the dasher A, the top of the dasher G is brought down upon them and is there secured by the key H at the points J. The water or soapsuds being about six inches below the bottom of the dasher when the beam C is

horizontal, and the top of the dasher G being concave, as shown in the engravings.

Claim.—The air-chamber or top of the concave dasher G G, or its equivalent.

No. 21,261.—WILLIAM A. JORDAN, of Thibodeaux, La.—*Improved Washing Machine.*—Patent dated August 24, 1858.—This invention consists in having a vertical tube C fitted centrally in the bottom *a* of the tub A, so as to serve as a guide for the shaft F of the disk or rubber D, and at the same time serve as an eduction pipe to let off the water from the tub. The disk or rubber shaft being slotted longitudinally, and having a key or pin passing through it, which key serves to retain the shaft and allow the rubber when raised to rest on the side of the tub.

Claim.—The combination of the tube C, slotted shaft F, and pin or key G attached, respectively, to the tub A and disk or rubber D, and arranged to operate as and for the purpose set forth.

No. 21,385.—THOMAS J. TINDALL, of New York, N. Y.—*Improved Washing Machine.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* combining with a suitable vessel for containing the clothes, &c., to be washed, and the washing liquid, an exhausting pump or equivalent therefor, communicating with the said vessel above the intended charge, substantially as described, to exhaust the said vessel above the charge and relieve the pressure to effect the circulation of the washing liquid by ebullition below the recognized boiling point, as set forth.

No. 21,477.—W. T. ARMSTRONG, of Sandwich, Ill.—*Improved Washing Machine.*—Patent dated September 14, 1858.—This invention consists in making the yoke or shaft which supports the rubber in bearings stationary while in operation, so far as vertical motion is concerned, and allowing the necessary vertical play to accommodate the thickness of the mass of clothes which are being operated upon by means of a slide attached to the rubber and passing through the yoke, being guided by it in such a manner as to allow the rubber to rise or fall without interfering with the position or action of the bearings of the shaft.

Claim.—The combination of the rubber and the slide F, with the stationary shaft G, substantially as and for the purposes set forth.

No. 21,476.—JOHN ALLEN, of Galena, Md.—*Improvement in Washing Machines.*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: What I *claim* is, so dressing with zig-zag ribs F F the bottom of the tub and under surface of the rubbing disk, that the approximating angles *b*, of the ribs F, of the disk and tub shall form rhomboidal figures wherein the clothes are subjected to an angular squeezing and oblique rubbing action, and the approximating knuckle or wedged shaped ends *a* of said angles shall, when the motion

of the disk is reversed, alter the rhomboidal spaces and pummel and loosen up the clothes, so as to allow a fresh supply of cleansing water to circulate through them, and thus prepare them for a succeeding angular squeezing and oblique rubbing action, substantially as and for the purposes set forth.

No. 21,565.—HENRY R. JUNE, of Millport, N. Y.—*Improved Washing Machine*.—Patent dated September 21, 1858.—The inventor says: The arrangement of the sets of projecting slats *d d d*, alternating with the receding or depressed boards *f f*, is found to be very effective in connexion with the elastic stationary rubber *E*, by the alternate compressing and relieving from pressure of the clothes and the consequent alternation of their saturation with and nearly depriving of water. The various degrees of pressure which are so readily given to the stationary rubber also finely adapts to the most delicate as well as the hardest rubbing.

The inventor says: I *claim* the combination of the revolving rubber *C*, having alternate slats *d d d*, and receding boards *f f*, as described, with the rubber *E*, constructed and operating in the manner specified.

I also claim the elastic pivot rod *m*, operating in the manner and for the purpose set forth.

No. 21,665.—JOHN FORDYCE, of Morgantown, Va.—*Improved Washing Machine*.—Patent dated October 5, 1858.—This invention consists in the combination of the tipping and stationary racks with the plunger, for the purpose of loosening up, raising and turning over the clothes and preventing them from being drawn back by the plunger and off from the tipping rack.

Claim.—In combination with the reciprocating plunger *D*, the tipping rack, and the stationary rack teeth, the three parts operating together in the manner and for the purpose set forth.

No. 21,653.—SAMUEL W. COLE, of Millington, Md.—*Improved Washing Machine*.—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination of the lever *E*, shaft *C*, and hinged levers *b b*, with each other and with the rubbers *D F*, for the purpose of moving said rubbers in contrary directions at the same time, and allow the upper rubber to rise and fall, to adapt itself to the clothes, the whole being arranged and operating as set forth.

No. 21,875.—THEODORE G. EISWALD, of Providence, R. I.—*Improved Washing Machine*.—Patent dated October 26, 1858.—*A* is the outer cylinder which is made to revolve one way by a cross-belt *e*; *B* is the inner cylinder which is made to revolve in the opposite direction by being connected with crank *f* so that the same power applied to the crank acts upon shaft *G*, thus causing the two cylinders to rotate around a common center at the same time and in opposite directions.

Claim.—The washing of clothes by means of the arrangement, construction, and combination of the two cylinders *A B* revolving in

different directions, substantially as and for the purposes shown and described.

No. 21,867.—WILLIAM T. ARMSTRONG, of Sandwich, Ill.—*Improvement in Washing Machines*.—Patent dated October 26, 1858.—The nature of this improvement in washing machines consists in making one or more inverted curves in an arched or curved rubber, arranged to work in a vat or box, with a curved bottom, provided with ribs upon which the clothes to be washed are rolled or rubbed by said rubber, and when the clothes are opposite the inverted curve they are partially released to allow them to absorb water, which is squeezed or pressed out by the arched portion of the rubber, carrying the dirt from the clothes, which has been loosened by the rubber.

Claim.—Making one or more inverted ribbed curves (N O) in an arched or curved rubber, substantially as described.

No. 21,909.—HAMILTON E. SMITH, of Philadelphia, Pa.—*Improved Washing Machine*.—Patent dated October 26, 1858.—This improvement consists in placing within the vessel a valved diaphragm, and above the latter a perforated diaphragm, or its equivalent, both diaphragms being arranged to yield together to the pressure of the plunger on the clothes, and to return to their former positions on the removal of this pressure, the whole being combined with two pipes connected to any suitable heating apparatus, and communicating with the vessel one above and the other below the diaphragms, so that portions of the cooler water at the upper portion of the tub may pass into the heater, and a supply of reheated water brought to act on the clothes by the action of the plunger.

Claim.—The vessel B, with its yielding valved diaphragm J, and the perforated diaphragm I, or its equivalent, in combination with a pipe G, communicating with the vessel at a point above, and the pipe H at a point below the said diaphragms, and both pipes communicating with any suitable heating apparatus, substantially as and for the purpose set forth.

No. 21,903.—JOSEPH F. POND, of Cleveland, Ohio.—*Improved Washing Machine*.—Patent dated October 26, 1858.—The nature of this invention consists in hanging the lower rollers, over which the apron passes, at opposite extremities of vibrating bars, for rendering said rollers self-adjustable.

Claim.—The suspension of the rollers R^1 R^2 upon the vibrating bars $f f$ at the extremities of slide rods $b b$, in combination with the springs d and upper roller R, the whole constructed, arranged, and operating substantially as and for the purposes set forth.

No. 22,236.—JOHN G. HALEY, ISAAC WILSON, and JACKSON LYON, of Cameron, Ill.—*Improved Washing Machine*.—Patent dated December 7, 1858.—This invention relates to that class of washing machines which are constructed with a horizontal washboard, on which a revolving rubber is operated, and consists in making the slabs or ribs on the rubber and washboard of different widths, but so as to inter-

lock or mesh with each other, and so that the slip between them shall cause the clothes to change position whilst being acted upon by them.

Claim.—Making the spaces between the edges of the slats *a* of the washboard of a width different from that of the spaces between the edges of the slats *b* of the cylinder *F*, and allowing the slats of each to interlock or mesh and slip upon each other, for the purpose of causing the clothes to move or change their position in the wash box whilst they are undergoing the rubbing process, substantially in the manner and for the purpose set forth.

No. 22,227.—JESSE BOWEN, of Yellow Bud, Ohio.—*Improved Washing Machine.*—Patent dated December 7, 1858.—The tub *a*, which is to contain the water and the clothes to be washed, has a vertical shaft *f* extending from its bottom downward. This shaft rests in a step upon the cross piece *y*, and has a bearing in the bridge *i i*, both pieces *y* and *i i* forming part of the frame-work of the machine. A pinion *g* is attached to the shaft *f*, and meshes with the horizontal racks *h h* sliding on and guided by the upright rails of bridge *i i*, forming part of the frame-work of the machine.

Claim.—The alternating rotation of the tub in one direction, and the similar rotation of the rubber in an opposite direction, by means of the levers, racks, and pinions, arranged and operating as set forth.

No. 22,461.—GEORGE W. SWIGERT, of Monmouth, Illinois.—*Washing Machine.*—Patent dated December 28, 1858.—The claim and engraving explain the nature of this invention.

Claim.—A washing machine provided with a cylinder of brushes *C*, a concave *J* supported on springs *d*, guard *K* attached to rod *e*, pounders *L*, tappet drum *M*, and otherwise constructed as shown and described.

No. 21,819.—JOHN S. CLARK, of Philadelphia, Pennsylvania.—*Improved Arrangement of Means for Making Tight Joints Around the Faucets of Water Coolers.*—Patent dated October 19, 1858.—This invention relates to the making of a convenient and perfectly tight joint between the faucet, or cock, and the passage which leads to the interior of the well.

Claim.—The projection *g*, ring *h*, and cap *i*, as an arrangement of means for allowing of the making of a perfect joint, as described.

No. 19,226.—CHARLES S. SCHLEIER, of Brooklyn, New York, assignor to JOHN H. BONN, of Weehawken, New Jersey.—*Improvement in Window-Shade Fixtures.*—Patent dated January 26, 1858.—The inventor thus describes his improvement: I attach the lower pulley *A*, around which the cord *B* of the shade passes, to the upper end of a screw rod *C*. The pulley *A* is fitted within a socket or block *a*, and this socket or block is so attached to the end of the screw rod *C* that it may turn freely around on it. It will therefore be seen that the pulley *A* is a swivel pulley.

The rod C passes through a nut D which is attached to a plate E. This plate is secured to the lower part, and on one side of the window, as usual. E is the pulley at one end of the roller G, around which pulley the cord B also passes, said roller being at the upper part of the window.

Claim.—As an improved article of manufacture, a window-shade fixture having the swivel pulley A attached to the screw rod C, which is fitted in or passes through the nut D on the plate E, substantially as described, and for the purpose set forth.

No. 19,336.—JACOB B. BAILEY, of New York, N. Y.—*Improvement in Rollers for Window Shades*—Patent dated February 16, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the spring F for the purpose of holding the roller in any position, as that has been before used, and patented by Purchase Miles, of Hartford, Connecticut, improvements in window-curtain rollers and fixtures, patented, respectively, March 3, 1857, and April 7, 1857.

Nor do I claim the endless band.

Nor do I claim the use of the India-rubber as new for the purpose of creating friction on a pulley, as that has been before known and used.

But I *claim* the application of an India-rubber band, or equivalent substance, on the plane of the pulley at M, in combination with the endless band or cord, for the purpose of rolling and unrolling a curtain or shade, in the manner set forth.

XVIII.—ARTS POLITE, FINE, ETC.

No. 22,199.—S. E. PETTEE, of Mansfield, Massachusetts.—*Pasting Apparatus for Bag Machines, &c.*—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Controlling the flow or draught of the paste when carried from a reservoir by a wheel or roll placed in the passage through the bottom of said reservoir, the roll receiving its motion from the passage of the paper under it, when said controlling is effected by means of the piece D and screw E in the manner and for the purposes set forth and described.

No. 19,046.—STEPHEN P. RUGGLES, of Boston, Massachusetts.—*Improvement in Shears for Cutting Bank Notes, &c.*—Patent dated January 5, 1858.—The nature of this invention consists in so hanging the movable blade of a pair of shears as that in the act of cutting it shall continue to be drawn close up to the stationary blade throughout its whole length, but without allowing the cutting edges to shear each

other, and at the same time spread at their heels, uncontrolled by a tight rivet or screw, as in other shears.

Claim.—The keeping of the moving blade in close and equal contact with the stationary one throughout their entire length, and the allowing of the blades to separate at the heel when in the act of cutting, as described and represented.

No. 21,984.—FORREST SHEPARD, of New Haven, Connecticut.—*Combined Book and Slate.*—Patent dated November 2, 1858—This improvement consists in so connecting the slate with the book that the slate (and its back) will form one side of the cover of the book when shut; and when it is open, the book may be opened at any desired page or portion, while the slate will be directly below it in a convenient position for use.

Claim.—The combination of the slate with the book, when so connected and arranged that the slate can be used with equal convenience and facility with each page of the book, while the page and the slate are continually before the eye of the user, as represented in figure 1, and the whole is constructed and connected substantially as described.

No. 21,759.—JOSEPH JOHNSON, of New York, N. Y.—*Index for Book Marker.*—Patent dated October 12, 1858.—This invention consists in so forming the extremities of a thin strip of metal as to enable the terminating portion of one to point as an indicator or marker, while the other extends at an acute angle, more or less, therefrom, in such a manner as to form an index, which is easily attached to the edge of a sheet of paper, and capable of being raised and lowered over the same, and retained at any desired point, to indicate a line, letter, or figure.

Claim.—The clasp A made of one piece of metal, with the angle between its points for receiving the leaf, while the clasp is applied in a vertical position, or nearly so, and opening to receive the leaf as it is pressed against its edge, and firmly grasping the leaf when applied, operating as described and for the purposes set forth.

No. 21,708.—EDWARD TOWN and CALVIN E. TOWN, of Jersey City, New Jersey.—*Machine for Numbering the Pages of Books.*—Patent dated October 5, 1858.—A is the frame of the machine. On the two upper stretchers the bed pieces B B are adjustable, and may be secured at any requisite distance apart by set-screws or other device.

The bed pieces are constructed with channels, through which the type blocks C C are driven by the ratchet pawls c c c c affixed to the slides c¹ c¹.

The channels are covered with a sheet of brass or other metal, which, with the movable bars P P P, form the table of the machine.

The inventors say: We *claim* the use of type blocks, containing a limited number of types, constructed as above described, with the ratchet teeth at the side, or any equivalent device to secure their uniform motion.

We also claim the level bed pieces, as described, in combination with type blocks.

We further claim the mode of delivery of the type blocks by means of the discharge boxes, as described.

We further claim the general combination of these parts with each other and with the other parts of the machine.

No. 19,654.—A. C. SEMPLE, of New York, N. Y.—*Improvement in Machines for Trimming Books*.—Patent dated March 16, 1858.—The nature of this invention consists in mounting the carriage or table C which holds the books, papers, or other material to be cut, and moving it on inclined ways against the knife or cutter, by which means the necessary draw cut is produced.

Claim.—Bringing the table or carriage C which contains the books or paper to be cut to the knife by moving it up an inclined plane *a a*, by means substantially such as described.

No. 21,748.—ADOLPHE DREYSPRING, of Montgomery, Alabama.—*Improvement in Portable Boxes*.—Patent dated October 12, 1858.—In making this box, the joints at *i* and *g* are made by turning inside small portions *i v* and *g w* of the rectangles by making slight incisions. The four vertical joints thus formed are then pasted together on the inside, and the outside of said joints are covered with and pasted to linen, cotton, cloth, or other suitable material, for the purpose of preventing the breaking of the joints by frequent folding and unfolding of the box.

Claim.—Constructing boxes capable of being folded and unfolded without thereby impairing their shape or their usefulness, substantially as described.

No. 21,381.—FRANCIS M. SWEET, of Syracuse, N. Y.—*Improvement in Bracelets*.—Patent dated August 31, 1858.—The nature of this invention consists in providing hollow metallic bracelets with an elastic connexion of rubber or metal spring, so arranged as to admit of the enlargement of the bracelet to pass over the hand, and closing the same upon the wrist and holding the parts together by the contraction of the rubber or spring.

Claim.—The employment of the elastic rubber or spring connexion between the two parts of the bracelet, operating substantially as described, and when the parts F and C are furnished with guides, in the manner and for the purpose set forth.

No. 21,208.—JOHN McELHERAN, of Brooklyn, N. Y.—*Feed Motion for Cerotypography*.—Patent dated August 17, 1858.—In the engravings the waxed matrix A is shown to slide in direction of the length of a feeding bar *a*, on or across an under sliding plate B, which traverses at right angles to the upper plate A on and along a bed plate C. These right angled movements are for the purpose of giving the necessary feed or adjustment to the plastic surface plate or matrix A for impression of the type thereon at suitable distances apart, as in printing by type in lines; the lower sliding plate B, which may be adjusted by a screw *b*, serving to give the "line" feed at intervals to the matrix A, and the type serving in a novel manner to adjust, by

the act of impression, the matrix each succeeding letter, character, or sign that is made in the same line.

Claim.—The manner described of causing the type, by their insertion in an adjustable type socket or its equivalent, to regulate their own required position relatively to the impression surface, substantially as specified.

No. 20,183.—JAMES LANCELOTT, of Cranston, R. I., assignor to SACKETT, DAVIS & Co., of Providence, R. I.—*Improvement in Sheet Metal Chains*—Patent dated May 4, 1858.—The nature of this improvement will be understood by referring to the claim and engravings.

The inventor says: I do not claim the making of an ornamental chain from steel metal; neither do I claim the weaving of a chain by turning over the arms of each link upon the body of the next link without the use of solder.

But I *claim* the forming of the body of each link into a dome disk or cap, so as to admit of the projecting arms of each link being bent at a very acute angle against the sides of the dome or cap of the next succeeding link, for the purposes specified..

No. 21,456.—WILLIAM VAN ANDEN, of Poughkeepsie, N. Y.—*Improvement in Portable Copying Apparatus*.—Patent dated September 7, 1858.—The nature of this improvement in the manufacture of portable copying books or presses consists in the method of uniting a cylindrical removable back or holder with a copying book by means of a concave channel or groove cut longitudinally in the face or surface of the cylinder, so that the book can be slid into and out of the groove almost instantly, and at the same time, when adjusted in the groove, firmly held in its place during the operation of rolling on the cylinder to take a copy in the book.

The inventor says: I *claim* the improved method of uniting a cylindrical removable back or holder with a copying book by means of a concave or tubular channel cut longitudinally with the face of the cylindrical back or holder, for the purposes and substantially in the manner set forth.

No. 20,436.—EDWARD G. KINSLEY and SAMUEL A. W. PARKER, jr., of Stoughton, Mass.—*Hinge for Daguerreotype and other Cases*.—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We do not claim a hinge of common construction, or one having each of its leaves bent at a right angle in order that it may be inserted in a mortise made in the side of a case or box.

Nor do we claim so applying a hinge to a daguerreotype or picture case moulded of a plastic material or made of frangible substance or substances, that such hinge may have each of its leaves bent twice, and so applied to the halves of the box as to embrace two contiguous sides of them, and be independent thereof, or not to have any tenon

or projection to enter the same, but extend or lap over, and be fastened to the top and bottom plates of the said box.

But we *claim* our improved mode of arranging and applying the hinge with reference to the side and end, or the end and the bottom of either half of the box; that is, extending the hinge leaf through the side of the half, and against the inner surface of its end or the same, and the inner surface of the bottom, and fastening such leaf to the end, or to the end and bottom, the whole serving to attain advantages as specified.

No. 20,718.—CHARLES KETCHAM, of Penn Yan, New York.—*Improvement in Machines for Cleaning Daguerreotype Plates*.—Patent dated June 29, 1858.—E E are the main plates of the cleaners, and may be made of tin, brass, wood, or iron, to which parts J are attached, or they may be perforated so that the parts J may be inserted. F is a clasp surrounding the plate E, and is used to hold the cloth or other substance that may be used to cover the parts J. I I I I are springing braces that serve to hold the cleaners in position. G is a bar extending from one cleaner to the other; its use is to prevent the cleaners from revolving with the shafts D D.

Claim.—Cleaners made as specified, with the projections J, as set forth; also the means for holding them in position with respect to each other, and the means for giving motion to the cleaners, when arranged as specified.

No. 19,770.—LUDWIG GREINER, of Philadelphia, Pennsylvania.—*Improvement in Constructing Dolls Heads*.—Patent dated March 30, 1858.—The claim will explain the nature of this invention.

Claim.—Strengthening the seams and protecting the exposed parts of doll heads, by cementing or pasting on those parts muslin, linen, silk, or other equivalent material, in the manner and for the purpose set forth.

No. 21,336.—ISSACHAR P. HANSELL, of Springfield, Illinois.—*Improvement in Drawing Boards*.—Patent dated August 31, 1858.—This invention consists in having an adjustable curved strip fitted in each side of the board, the outer edges of the strips being the curved parts and forming guides for the square, the curves being struck or formed from the vanishing point, or point of distance of the object to be drawn, and determining the proper angle at any point of their curved surface for the vanishing lines. The board has also straight guides at each side, in order that the square, when required, may be adjusted parallel with the base of the board.

Claim.—The strips B B placed at each side of the board A, and having their outer edges curved, or made of concave form, in the manner described, and used in connexion with the square, having its blade C and head D arranged relatively with respect to each other as set forth, the whole being for the purpose specified.

No. 19,602.—CHARLES M. ZIMMERMANN, of Philadelphia, Pennsylvania.—*Improvement in the Construction of Military Drums*.—Patent

dated March 9, 1858.—A are the hoops forming the ends of the drum; *b b b b* are pulleys fastened to the hoops A A; *c¹ c¹ c¹ c¹* is the rope passing over the pulleys; *d d d d* are leather slides for tightening the ropes; F F F F show parts of the metal shell bent over the hoops A A for the drum to rest or stand on; *k* is the back of the metal shell clasp ing the hoops securing the pulleys in their proper position.

The inventor says: I do not claim tightening the ends of military drums by a rope passing through holes made in the hoops, and over the same, as this is in common use.

But I *claim* arranging and adapting a series of pulleys *b b b b* to the sides of drum hoops, for the purpose set forth.

No. 21,509.—HENRY LOVEJOY and ROBERT WHEELER, of Brooklyn, New York.—*Machine for Coating Electrottype Moulds*.—Patent dated September 14, 1858.—This invention consists in giving to the brush of the machine a peculiar motion by which its operation is rendered more thorough and perfect, and in combining with the operation of the brush a wind-blast for the removal from the mould of the superfluous coating material.

The inventors say: We do not claim operating a brush by mechanical means to coat electrottype moulds with coating material.

But we *claim*, first, suspending the brush bar I by the crank J at one end, and attaching it to and operating it by the crank of the crank-shaft E at the other end, in the manner and for the purpose set forth.

Second. The combination of the brush H and bed C with the blower S and wind-chest V, in the manner and for the purpose described.

No. 20,711.—THOMAS R. HOPKINS, of Petersburg, Va.—*Ring Clamp for Engravers, &c.*—Patent dated June 29, 1858.—This invention consists in an adjustable ring clamp or hand tool for jewelers or engravers' use, its office being to hold and firmly clasp rings of different diameters during the operation of filing out and engraving names or devices on the inner side of the same. It also answers for holding a watch while cutting out the open spaces between the rim and centre to form the arms.

Claim.—The adjustable encircling spring D arranged in the end of the stock A C and attached to an adjustable rod E, substantially as and for the purposes set forth.

No. 19,607.—JOHN HOPE, of Providence, R. I., assignor to Himself and THOMAS HOPE, of said Providence.—*Improved Device for Pentagraphic Engraving Machines*.—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—Combining with the main tracer of a pentagraphic engraving machine a grooved tablet A or its equivalent, and an arm D and secondary tracer or guide E, to run or work in the grooves of the tablet, and to govern the direction of the movements of the main

tracer in producing the grounded lines of the engraved figures, as specified.

I also claim combining with the tracer B the rest G so as to operate therewith, as specified.

No. 20,528.—JOHN HOPE, of Providence, R. I., assignor to Himself and THOMAS HOPE, of said Providence.—*Apparatus for Supporting and Adjusting Gravers for Engraving Machines*.—Patent dated June 8 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the curved arm or bar B and the graver carriage D, as combined, together and with the graver lever E, and made to operate therewith, substantially as specified.

I also claim the adjustable weighted arm F, in combination with the balanced tracer arm or graver E.

I also claim constructing the tracer carriage D in two parts *b c*, substantially as described, in order that the tracer or graver may be adjusted in a vertical direction to cylinders or rollers of different sizes.

I also claim making the arm H and stop L adjustable on their shaft and rod, as described, in order to bring them into proper positions to cause the elevation of the graver under any situation of it on the surface of the cylinder, and when the lever S is moved backward.

I also claim making the weight G in two parts *l m*, for the purpose specified.

No. 20,087.—CHARLES PHELPS, of Salem, Mass.—*Improvement in Envelopes for Letters, &c.*—Patent dated April 27, 1858.—This invention consists of a piece of cord of any suitable size and material laid parallel with and attached to one of the creases formed by the folding of the envelope, and of such length that it shall fill the said crease formed by the folding of the envelope, and of such length that it shall fill the said crease and project beyond far enough to be readily seized when its use is required.

Claim.—The application to a letter envelope of an opener; therefore said opener to be attached to and part of said envelope, and to be attached and operated substantially in the manner set forth and described.

No. 22,405.—JAMES G. ARNOLD, of Worcester, Mass.—*Letter Envelope*.—Patent dated December 28, 1858.—The nature of this invention consists in so shaping the pattern that when one piece is cut from the roller or continuous sheet the end of the sheet is left in the right form to use; and also in making the adhering parts that close the ends or sides to consist of narrow folds or laps that shall come inside or between the face and back.

The inventor says: I *claim*, as a new article of manufacture, making letter envelopes by cutting, folding, and pasting the paper, substantially in the manner and for the purposes set forth and described.

I also claim narrow folds at the ends or sides, so as to come inside

between the face and back, in the manner and for the purposes substantially as set forth and described.

No. 22,149.—MILTON G. PUFFER, of Rockville, Conn., assignor to CYRUS WHITE and LEWIS A. CORBIN, of said Rockville.—*Improved Machine for Making Envelopes*.—Patent dated November 23, 1858.—The nature of this improvement consists in so constructing a self-feeding machine that when motion is given it will take one sheet of paper at a time, paste, carry it forward, fold, press, and deliver it in the required number for a package, separated from the others.

The inventor says: I *claim* the shape essentially of the cams Nos. 1 2 3 4 5 6 7 8 9, for the purpose set forth.

The employment of the jack *F*, arm *c*, operating as described, to paste and lift the paper, and the fly *b* to separate it therefrom on the carrier *H*, as described.

The carrier *H*, shaft *o*, fingers *n*, arm *w*, stud *p*, catches *m*, and arms *j*, for the purpose as described.

The combined action bed *N* with the plunger *R*, for the purpose as described; also, the employment of the springs in the plunger *R*, for the purpose as described.

I claim the folding flaps *o* projecting from the centre, or nearly so, from the end of a shaft or shafts, and having their bearings on one end or on each end thereof, whether with or without the half circle *x*, substantially as shown and described.

The construction and arrangement of the catch-wheel *t*, with a long tooth *q* and guard *y*, for the purpose as described.

The arrangement of the nippers *T*¹, operated in the manner and for the purpose described.

No. 21,430.—ROBERT J. MARCHER, of New York, N. Y.—*Apparatus for Preparing Elliptical Frames for Gilding*.—Patent dated September 7, 1858.—This invention consists in a peculiar arrangement and adaptation of the well known trammel for the purpose of giving a position or arbitrary elliptical movement to a tool, said movement corresponding with the shape of the frame to be operated upon, so that the tool may traverse over the frame and properly distribute the compound or substance thereon which receives the gold leaf.

Claim.—The inventor says: I am aware that a bar provided with pins, and fitted in slots or recesses crossing each other at right angles, forms an old and well known implement termed a "trammel," for drawing ovals, and such implement has been arranged and adapted in various ways for various purposes. But I am not aware that the implement above named has been arranged as shown, and used in connexion with a foot piece or rest.

I do not claim, therefore, broadly, and irrespective of construction and arrangement, a trammel, that is to say, a bar provided with pins, which are fitted in cross slots or grooves.

But I *claim* providing the bar *D* with a foot or support *E* and sliding plate or tool *F*, when the bar *D* is arranged relatively with its upright grooved or slotted bar *C* and the frame *B*, substantially as and for the purpose shown and described.

No. 21,173. JAMES W. CAMPBELL, of New York, N. Y.—*Machine for Preparing Frames for Gilding*.—Patent dated August 10, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the lathe C, for this is a well known device, and in common use for turning oval and circular frames; but

I *claim* the inclined lathe C in combination with the inclined tool F, when said tool is arranged substantially as shown, so as to be rendered capable of being adjusted to the frame D by the treadle frame G, and at the same time allowed a lateral movement or play, to conform to any irregular movement of the frame due to an imperfect centring of the same on the plate *b* of the lathe, for the purpose specified.

No. 20,078.—PETER V. MATHEWS, of Philadelphia, Pa.—*Mode for Protecting Gilding on Glass*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim anything described in such devices, nor confine my claim to the use of any particular kind of adhesive substance or sizing for causing either the gilding or the metallic backing to adhere to the glass or to each other, as described.

But I *claim* the use of the tin foil, or other thinly laminated or rolled metal, as a backing for the gilded letters, figures, &c., which are generally required on the inner surfaces of the panes of glass or windows, transoms, and doors of stores, &c., for the purpose of securing and protecting the said letters, figures, &c., from being damaged and described, and without obstructing the free passage of the rays of light through the immediately surrounding parts of the glass from either side of the same, as described.

No. 21,896.—JASPER S. MILES, of Ann Arbor, Mich.—*Improvement in Ornamenting Glass*.—Patent dated October 26, 1858.—The inventor says: The coral glass is produced by applying paint to one of the surfaces of each of two plates of glass, and treating the paint and glass in a peculiar manner.

The colors to be used for the paint may be various, but I propose generally to use zinc white, vermilion, Paris green, and ultramarine blue. These are ground very fine and mixed for use with equal quantities of boiled linseed oil and Demar varnish much thicker than for common painting, viz., of about the consistency of cold tar. The glass may be common window glass.

Claim.—The said manufacture produced by combining two plates of glass with coloring matters by a process like that specified.

No. 19,707.—JOHN McELHERAN, of Brooklyn, N. Y.—*Improvement in Graphotype*.—Patent dated March 23, 1858.—This invention relates to a new method of producing picturetypes or other raised surfaces to be printed from, and consists in the process of electrotyping applied to and in combination with the method of producing moulds, matrices, or reversed copies of such objects wherein the metal is by electrical action directly deposited.

Claim.—The method described of producing the mould or matrix, wherein the metal is deposited by electrical action to form picture-types or their equivalents of wax, applied to and in combination with a hard, transparent, smooth, and level plate, substantially in the manner set forth.

No. 20,512.—ALEXANDER SCHIMMELFENNIG and JULIUS ENDE, of Washington, D. C.—*Improvement in Ink-Rollers.*—Patent dated June 8, 1858.—The inventors say: A very soft and elastic roller being desired, the juice is used as it flows from the tree, or we apply solvents in order to bring the cakes of gum into a plastic flowing state. The substance is then filtered and spread over an even plane, in a horizontal position; it is laid on equally thick and evaporates equally. When the layer of gum has nearly become dry, it is rolled upon the required axis as soon as the particles become adhesive, and the whole forms one sheet. When a hard roller is required, we roll upon an axis a sheet of caoutchouc which is of equal thickness, and fasten the end of the sheet to the surface of the roller by means of a fresh cut. The sheet is then rolled upon the axis, and, if necessary, it is provided with a cover of dry caoutchouc or gutta-percha.

Claim.—To manufacture ink-rollers out of elastic gums, such as caoutchouc or gutta-percha, or of compounds of the latter, in the modes described in the specification, or in any similar modes.

No. 20,710.—ALPHEUS A. HANSCOM, of Saco, Maine.—*Improvement in Ink-Rollers.*—Patent dated June 29, 1858.—In the operation of this roller the wheels *e e* roll upon the frame in which the form is placed. And the inking roller, being provided with ink, is lowered by means of nuts *c c* on to the type, and by taking hold of the handles *g g* the carriage *C* may be rolled backward and forward over the type.

The inventor says: I *claim*, first, the employment of the several parts specified for the purpose of adapting the carriage to different sized forms, as set forth.

Second. Suspending the ink-roller *B* in the rolling carriage *C*, constructed in the manner set forth, and regulating and stationing said roller by means of screws *a a* and nuts *c c*, for the purpose of making an adjustable hand roller for inking type, the peculiarities and advantages of which are fully described.

No. 19,613.—LUCIEN E. HICKS, of Boston, Mass., assignor to DAVID C. FIELD, of Brooklyn, N. Y.—*Improvement in Inkstands.*—Patent dated March 9, 1858.—In the centre of the top *a* there is a female screw or nut for the reception of the screw *e* on the tube *d*; *c* is the basin or bowl united to the tube *d*; it is formed of metal or glass, and provided with a considerable shoulder-flange, for the purpose of making a good air joint when secured in the nut.

Claim.—The employment of the bottom *b* of a flexible inkstand, constructed substantially in the manner set forth, for the purpose of serving as a valve in its use with the tube *d*, operating in the manner and for the purposes set forth in the foregoing specification.

No. 20,028.---JOHN M. BATCHELDER, of Cambridge, Mass.---*Improvement in Inkstands*.---Patent dated April 27, 1858.---The claim and engravings explain the nature of this invention.

Claim.---An inkstand having a central dipping-cup, with an exterior screw, by which it is raised and depressed, causing a corresponding rise and fall of the ink in the stand as the plunger enters and leaves it, the combined screw, dipping-cup, and plunger being made in one piece.

No. 21,395.---VALENTINE FOGERTY, of Cambridgeport, Mass., assignor to FRANCIS HOUGHTON, of Somerville, Mass.---*Improvement in Inkstands*.---Patent dated August 31, 1858.---The nature or main feature of this invention consists in a combination of a common ink-reservoir or vessel, and an auxiliary pan or dipper applied to operate therewith.

The inventor says: I *claim*, in combination with an inkstand or ink-reservoir and its mouth, a dipper or vessel so applied within said reservoir as to be capable of being within it, and towards and away from said mouth, substantially in the manner and for the purpose of taking up ink or a liquid from the reservoir, as specified.

I also claim the application of the dipper to the movable cap of the mouth of the reservoir, so as to be operated by the said cap, in manner substantially as explained.

No. 21,554.---SAMUEL DARLING, of Bangor, Maine.---*Improvement in Inkstands*.---Patent dated September 21, 1858.---This improved inkstand differs from all others in having a pen-cup or dipping-cup, the ink in which cannot be made to communicate with the ink in the reservoir while the stand is in its proper position, and yet being so constructed that the ink can readily be supplied to the cup when necessary.

Claim.---An inkstand, with a dipping-cup and reservoir, arranged and constructed substantially as described.

No. 22,123.---ORLANDO H. JADWIN, of Carbondale, Penn.---*Improvement in Inkstands*.---Patent dated November 23, 1858.---This invention consists in combining with a hollow plunger for forcing up the ink from the bowl, a cup which will receive and retain such ink without any liability of its flowing back into the reservoir.

Claim.---In combination with a hollow plunger for raising the ink in an independent cup for holding said ink, and from which it cannot, by the ordinary want of tightness, flow back into the reservoir, substantially as described.

No. 22,429.---THOMAS S. HUDSON, of East Cambridge, Mass.---*Inkstand*.---Patent dated December 28, 1858.---The nature of this improvement consists in the application of a vent-hole within the flexible diaphragm, and with respect to the ink-receiver in such manner that when the latter is in its highest position, or covered, the air within the reservoir may have free communication with that outside of the reservoir; and when the ink-receiver is depressed it will serve

as a valve to cover the vent-hole and prevent any communication between the air within and that without the reservoir.

Claim.—The arrangement of the vent-hole *i* within the flexible elastic diaphragm C, and with respect to the ink-receiver B, essentially in manner and to operate as described and for the purpose before explained.

No. 19,497.—CHARLES W. DICKINSON, of Newark, New Jersey.—*Improvement in Loop Chains for Jewelry.*—Patent dated March 2, 1858.—The outer rings *a a* are flat hoop or band rings, and are connected together by the two cross-bars *c c*, by soldering the bars to the inside of the rings. The inner rings *e e e* are the loops which embrace the bars and give flexibility to the chain. These loops are “rounded up,” or made concavo-convex, so as to present the convexity outside. They are made from flat strips of metal struck or rolled up into the required form, and when bent or curled into rings they are “soldered up,” and thus complete the loop.

Claim.—The concavo-convex links made entire, as set forth.

No. 19,783.—HYMEN L. LIPMAN, of Philadelphia, Pennsylvania.—*Combination of Lead Pencil and Eraser.*—Patent dated March 30, 1858.—This invention consists of a lead pencil made in the usual manner, with a groove A in one end, in which is inserted a piece of prepared rubber, secured by glue at one edge. On cutting, one end is the lead B, and in the other is a piece of rubber C, which can be pointed for use.

The inventor says: I do not claim the use of a lead pencil with a piece of India-rubber or other erasing material attached at one end for the purpose of erasing marks.

But I *claim* the combination of the lead and India-rubber, or other erasing substance, in the holder of a drawing pencil, the whole being constructed and arranged substantially in the manner and for the purpose set forth.

No. 19,624.—ALMIRA M. COLE, of Windham, Maine.—*Improvement in Mounting Fluid Lenses.*—Patent dated March 16, 1858.—The nature of this invention consists in providing a fluid lens with a shade A, and placing said lens and shade between two upright studs B B, and made to slide with ease upon the same, for the purpose of elevating and depressing the shade and lens to conform to the different height of tapers that may be placed in the rear of the lens.

Claim.—The appendage to the shade of a fluid lens a woman's sewing utensils, as described.

No. 22,089.—ISAAC REHN, of Philadelphia, Pennsylvania.—*Improvement in Melodeons.*—Patent dated November 16, 1858.—This invention consists in the employment of independent wind chests, and in a peculiar arrangement of valves between the said chest and the bellows, and the appliances for operating the same.

The inventor says: I *claim*, first, the employment of independent wind chests in melodeons, harmoneums, and other similar reed instru-

ments, in combination with the suction bellows, for the purpose specified.

Second. The introduction of the stop valves between the independent wind chests and the bellows, in combination with the appliances described, or their equivalents, for operating the said valves, when the said appliances are situated within the bellows, as set forth.

No. 21,262.—EDWIN LEACH, of Norwich, Connecticut.—*Improved Music Stool*.—Patent dated August 24, 1858.—The nature of this invention consists in constructing a stool of metal in a novel way, whereby a strong, light, ornamental, and economical stool is obtained.

Claim.—The rods B, annular or serpentine case A, boss C, nut D, and screw E, when arranged or disposed substantially as shown, for the purpose set forth.

No. 19,296.—URELI C. HILL, of Jersey City, New Jersey, and CHARLES F. HILL, of New York, N. Y.—*Improvement in Musical Instruments*.—Patent dated February 9, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventors say: We do not claim the cells as agents, in conjunction with forks, to produce a musical instrument, nor forms, nor modes of constructing cells.

But we *claim*, first, the wing and hammer wire to fork prongs, as used in this instrument.

Second. The placing of keys, action, and cells in lateral or oblique ranges, the cells and keys crossing each other at right angles, and the manner of suspending cells.

Third. The yoke, and method of holding the fork to the cell.

Fourth. The arrangement of dampers and damper levers to the keys and forks, so as to damp the forks on their edges.

Fifth. The transverse upright action for the movement of hammers across instead of parallel with the keys, all substantially as shown and described.

No. 20,397.—JOHN D. AKIN, of Spartansburg, Pennsylvania.—*Musical Instrument*.—Patent dated June 1, 1858.—Between the two rows of violins is a narrow piece of wood or metal B B, and on this is a number of small pulleys; S S S S are cords, one end of each of which is attached to the violins, and passing over the side pulleys is attached to the keys 13 41 15 16 17 18 19 20 by passing around the pins 21 21 by which the length of said cords can be adjusted.

Claim.—The construction of the violins suspended on pins *w* and by cords S S S S S attached to keys, so that they may be brought in contact with the bows by depressing the keys in the manner described, or any other substantially the same, and which will produce the same results.

No. 19,345.—DERWIN E. BUTLER, of Chesterfield, Ohio.—*Machine for Cutting Key-Boards, &c., for Musical Instruments*.—Patent dated February 16, 1858.—The nature of this invention will be understood by an examination of the claim and engravings.

The inventor says: I do not claim to have invented the mode of making uniform and equal or unequal divisions by the intervention of a spacing or "dial plate," with holes or notches corresponding with the required divisions, as gearing is cut, and many similar operations performed through its instrumentality.

But I *claim* the use of the spacing plate H with ranges of holes h^1 h^2 h^3 , and others if necessary; but one range of which shall conform to and correspond with the musical chromatic scale, and the other with the mechanical divisions of the key-board and its frame, in combination with the carriage and platform, the oscillating frame F and tool mandrel C, and the vertical bar F¹, (said carriage having a longitudinal and transverse motion,) and the whole operated in the manner and for the purposes as set forth by the mechanical devices described, or their equivalents.

No. 22,139.—CORNELIUS J. VAN OECKLEN, of New York, N. Y.—*Improvement in Wind Musical Instruments*.—Patent dated November 23, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: First, I *claim* the application to a musical instrument of several different rows of reeds combined in such manner that each key of the instrument can produce several different sounds, by causing one or several reeds to vibrate according to the pleasure of the performer, preserving always, nevertheless, the proper musical expression of the note, in the manner substantially as described.

Second. The arrangement of the several parts in such an instrument by which the power is obtained of causing each note to vibrate on itself, and independently of all others, in the manner substantially as described.

Third. The application to a musical instrument, the sounds of which are produced by the vibration of the reeds of several rows of valves, so arranged as to act one upon the other, and that the valves of the different rows thus connected can be opened either altogether or only one or more at a time, by touching the same key of the instrument, at the pleasure of the performer, preserving always, nevertheless, the proper musical expression of the note, in the manner substantially as described.

No. 19,187.—CHRISTIAN H. EISENBRANDT, of Baltimore, Maryland.—*Improvement in Musical Wind Instruments*.—Patent dated January 26, 1858.—The nature of this improvement consists in constructing a wind instrument possessing within itself the inherent quality of instantaneous transposition from one tone or key note into that of another note, and *vice versa*, at the will of the performer, without removing the instrument from his mouth.

Claim.—The construction and arrangement of wind musical instruments by the addition of compensation sliding extension crooks or curved tubes D E F G, the auxiliary transition valve H, the key-bar L L, the secondary keys M N, the connexion actuating rods and arms O P Q R S T U V together, and in combination with the valves, tubes, and pipes, substantially as set forth, shown, and described.

No. 19,814.—JULES MONESTIER, of St. Denis, near Paris, France, assignor to B. F. SPANGENBERG, of Brooklyn, N. Y.—*Hand Exercises for Musicians*.—Patent dated March 30, 1858.—The nature of this invention consists in applying weights to the wrist or fingers in such a manner that while the free movements of the joints are not obstructed, the fingers and wrists are strengthened by the exercise in moving said weights, the blow or force of the fingers on the instrument is increased, and the hand is rendered supple and capable of greater freedom of movement.

The inventor says: I do not limit myself to any particular size or weight of my “*agili-main*,” nor to the manner of fastening the same in place, although I believe that shown to be the best.

But I *claim* the manner described of giving agility and suppleness to the fingers, hand, and wrist of musicians by the exercise induced by the application of my “*agili-main*,” substantially as and for the purposes specified.

No. 19,312.—THOMAS ROBJOHN, of New York, N. Y.—*Improvement in Pedals for Organs, &c.*—Patent dated February 9, 1858.—A is the pedal frame, placed as usual in front of the key-board, and beneath the organist’s seat, which will be above and rest upon the platform B. The other ends are hinged beneath the platform in the usual manner, as shown at C. They extend from B in a somewhat fan-shaped arrangement. Their surface is concave, as shown by the curve of the cross-rail D.

Claim.—The described arrangement of organ pedals in the radial and concave form, to facilitate the performance thereon, as set forth.

No. 20,480 — WILLIAM B. CARPENTER, of Brooklyn, N. Y.—*Method of Attaching Ornaments to the Ear*.—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The mode of attaching ornaments to the ear without boring or piercing holes therein by the use of the hooked-shaped wire B, in connexion with the wire A and the spring C, substantially as and for the purpose as described.

No. 19,316.—HORACE THAYER and LEVI L. MARTIN, of Warsaw, N. Y.—*Painting and Varnishing Machine*.—Patent dated February 9, 1858.—The nature of this invention will be understood by examining the claim and engravings.

Claim.—The mode of flowing paint, size, varnish, or any liquid substance, on articles of wood or iron, by passing them horizontally, or otherwise, through holes cut in two sides of any vessel, while said vessel is filled with the liquid substance, to be used as represented, said holes to be cut directly opposite each other, and to be appropriately packed with flannel, fulled cloth, or any other appropriate packing, as described by the letters X X X, and figure I I, and to correspond in shape with the articles to be run through, as set forth.

We also claim the funnel-shaped India-rubber tube, with its packing, as represented, and its application to painting, sizing, and varnishing articles that diminish in size from one end to the other, or that vary in diameter.

We also claim the hollow brush *k*, standing on the further side of the chamber from the operator, and its adaptation, as described.

No. 20,111.—C. A. WATERBURY, of New York, N. Y.—*Improved Apparatus for Damping Paper*.—Patent dated April 27, 1858.—The nature of this invention consists, in part, in keeping copying tablets, used for the purpose of copying letters, immersed in water, thereby avoiding the cutting of the leaves of the copy book, and also, by means of such immersed tablets, two, four, or more letters, with duplicates or both sides of a written sheet, can be copied at the same time.

The inventor says: I am aware that tablets are in use made of wood and metal, for copying letters, which are dampened by means of a brush or substitute, and also by dampening the leaves of the book with a brush or substitute before the letters are put therein, I disclaim the use of any such process.

But I *claim*, first, the application of one or more tablets, when kept in a wet state, for the purpose of taking copies of written letters and other documents, substantially as described in the specification.

Second. I claim the use of wood or other substances, when used as copying tablets, for the purposes in manner and form substantially as aforesaid.

Third. I claim the use of the case or substitute, which contains the water and tablets, when used in connexion, for the purposes substantially as aforesaid.

No. 19,506.—JACOB KELLER, of Fairview Township, York Co., Pa.—*Machine for Making Paper Bags*.—Patent dated March 2, 1858.—The manner of operating this machine is as follows: The paper being laid smooth and flat on the top, the operator presses upon the treadle B, and the flanged wheel D is partly revolved until its pin I raises the spring catch P, at the same time fly lid W falls down upon the paper at top, the movable frame S is thrown forward and the paste roller L deposits the paste on the front edge of the paper. The short lever T then operates on the long lever R, and the movable frame S is thrown back with its paste roller L, and the spiral spring F brings the devices of the machine back to their places.

Claim.—The treadle B, shaft C, wheels D G, roller H, lever J, roller L, folders N O, and the devices P Q R S T, as arranged in combination, substantially as described, for the purpose of making paper bags.

No. 20,838.—FRANCIS WOLLE, of Bethlehem, Pa.—*Improvement in Machines for Making Paper Bags*.—Patent dated July 6, 1858.—By this invention in preparing a piece of paper for making a bag it is lapped over so that when the piece is doubled the strip B B comes between the two sides of the bag. This is performed by what is called a lapping apparatus, consisting of three principal parts, namely, the shear D D, the creaser C, and the lapper F G.

The inventor says: I *claim*, first, the combination of the creaser C and lapper F G, arranged and operating substantially in the manner and for the purpose described and set forth.

Second. The revolving lapper shaft *u* in combination with the creaser *v s*, the feed roller *M* and apron *u*, substantially as described, the creaser being brought into operation on the bags during the intermission in the motion of the feed rollers.

No. 21,657.—HENRY R. DAVID, of New York, N. Y.—*Improvement in Knives to cut Paper Bags, &c.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim a serrated edge knife in itself, as the same has been used with a reciprocating motion for cutting the edges of books, &c.

Neither do I claim a serrated shear or blade for cutting paper, as this has before been used.

I *claim* the serrated knife *a*, having a vertical movement, in combination with the narrow slot in the bed plate *f* for sustaining the paper, while several thicknesses are being cut for bags or other irregular forms, as set forth.

I also claim forming said serrated knife with alternate long and short serrations, for piercing and cutting several thicknesses of paper, in substantially the manner and for the purposes specified.

No. 21,775.—ARNOLD PALMER, of Lee, Mass.—*Improvement in Paper Clamps.*—Patent dated October 12, 1858.—This implement is used as follows: The bar *D* is adjusted to the lever *C* so that when the lever *I* is fully depressed the box *E* will be at such a height to receive the pile of sheets *K* to be trimmed. The pile of sheets is then placed under the box and the lever *I* depressed by the hand of the operator. This movement of lever *I* forces the box down firmly on the sheets, and the operator then adjusts the box to the reciprocating knife arranged in the usual way, said knife cutting successively the edges of the sheet at the sides of the box *E* which serves as a guide or pattern, the paper being cut the exact size of the box.

Claim.—The pressure box *E*, placed over the bed *F*, and attached to the lever *I*, through the medium of the bar *D*, lever *C*, and adjusting rods *G H*, actuated by the nut or tube *f*, the above parts being arranged to operate as shown, and with or without the spring catch *i*, for the purpose set forth.

No. 19,748.—W. Z. W. CHAPMAN, of New York, N. Y.—*Improvement in Paper Files.*—Patent dated March 30, 1858.—This invention consists in one or more wires *c* extending along the rod or shaft *a* in a groove. The upper ends of the wires are bent into a hook *c*¹, and when the wires are brought into place each one enters into a notch in lock plate *f*. Around the outside of plate *f* there is one or more rings *i*; these rings have an opening *k* cut through them, which permit the wire to be drawn out for releasing or inserting a paper.

The inventor says: I *claim* the combination and arrangement of two or more wires or their equivalents, on a rod, or its equivalent, substantially in the manner and for the purposes set forth.

I also claim the combination of the ring or rings *i* and lock plate *f*, for securing the ends of the wires, as set forth.

No. 22,363.—EDWARD K. GODFREY, of New York, N. Y.—*Improvement in Paper Files*.—Patent dated December 21, 1858.—The nature of this invention consists in the method of combining with the back or steadying weight the hooks or wires *C* and *d*, by forming a groove or channel in the lower surface of the back or steadying weight, so that when the ends of the hooks or wires are bent down in the groove and united by a small touch of solder, they are more securely and firmly held from turning in the holes *b*¹ *b*², to prevent dropping the files of papers, than by any other means equally cheap or lasting, and at the same time allowing the back or steadying weight to be set down flat upon the table, so as to give firmness and steadiness to it when overhauling the files of papers on the hooks.

Claim.—The method of securing and transferring hooks *c* and *d* to the back or steadying weight *a* by folding and uniting their ends down the entire length of the channel or groove in the lower surface of the back, so as to prevent them from twisting and dropping the file of papers, as would be the case if the ends of the wires were simply riveted into the back.

No. 20,965.—T. VAN DEVENTER, of New Brunswick, N. J.—*Improvement in Apparatus for hanging-up and carrying-off Paper Hangings*.—Patent dated July 20, 1858.—This invention consists in a certain arrangement of belts for carrying the laths on which the paper is hung and carried off, whereby, as the paper is formed into festoons, the sides of the festoons are prevented from striking each other and smearing or otherwise injuring the wet impression or coating. It further consists in the application of springs to the lath-feeding box, to permit laths of varying thickness to be used, and also to permit laths that may be warped to pass out from the box, and yet to prevent the passage out of more than one lath at a time.

The inventor says: I *claim*, first, the employment of the intermediate bands *l*¹ *l*², in combination with the hanging-up belts *c* *c*¹ and carrying-off bands *t*¹ *t*², substantially as described, the whole operating as set forth.

Second. The springs 5 5 applied to the lath-box *E*, to operate substantially as and for the purpose set forth.

No. 21,710.—JOHN WAUGH, of New York, N. Y.—*Improvement in Machines for Trimming the Edges of Paper Hangings*.—Patent dated October 5, 1858.—The nature of this invention consists in providing paper hangers and others with a machine to trim the edges or slit roll paper, either in a right or waved line, as circumstances may require.

Claim.—Rotating, concave, self-sharpening circular knives, whose shafts do not revolve in the same line, but at an angle to each other, giving the knives a pressure against each other at the point of contact only; the reverse sliding motion of hopper and reel spindle in combination with wooden roller *I*, pulleys *U S T*, and band and hand crank *z*, in the manner and for the purpose substantially set forth.

No. 20,858.—MILTON B. BIGELOW, of Boston, Mass.—*Improvement in Machines for Cutting Paper*.—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not confine myself to the precise mechanical devices described, as they are susceptible of various modifications.

It is very obvious, for instance, that V-shaped rails might be employed for sustaining and directing the sliding carriage and cutting-board in their movements; also that a short shaft with a crank and pinion on it might be attached to the frame, said pinion being made to engage in a gear wheel affixed to the rock-shaft O, for the purpose of moving the cutting-board and paper.

But I *claim* the described mechanism, or any other essentially the same, by means of which the cutting-board is prevented from moving in any other direction than a straight line, in its horizontal motions, said mechanism consisting of the guide-rails *y y* and the sliding carriage *v v*, constructed and operating in the manner substantially as and for the purpose specified.

I also claim actuating the sliding carriage *v v*, and with it the cutting-board *x*, by means of the mechanism described, or any other essentially the same, said mechanism consisting of the levers *q* and *r*, the rock-shaft *o*, and the straight lever *p*, connected and operating in the manner substantially as and for the purpose specified.

No. 21,172 —JOHN NORTH, of Middletown, Conn., assignor to STEUBEN T. BACON, of Boston, Mass.—*Machine for Folding Paper*.—Patent dated August 10, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* placing the sheet direct in register upon the knife to receive its first fold, in the manner and for the purpose above described.

Second. Folding paper by means of a straight edge or knife O and reciprocating rollers 3 3, 4 4, 6 6 and 7 7.

Third. Hanging the frame *m m*, with reciprocating rollers and folding knife E attached, to remove and reciprocate in the arc of a circle.

Fourth. Causing the rollers to rotate and change their motion alternately, for the purpose specified.

Fifth. Cutting off the inset for the 12-mo folding, at the same time it is being folded.

No. 21,411.—J. C. FORMAN, of Cleveland, Ohio.—*Machine for Ruling Paper*.—Patent dated September 7, 1858.—This invention relates to a machine for ruling paper with parallel lines bounded by curved or semi-circular ends forming borders for cards, checks, bill-heads and the like.

The invention consists in giving a bed on which the paper is placed a movement below the pens corresponding to the form of the border to be ruled, so that the desired lines will be drawn on the paper, the bed having a frisket attached and so arranged that the paper may be readily shifted on the bed and the machine generally manipulated with facility.

Claim.—The inventor says: I claim the moveable bed F, operated through the medium of the rack D and grooved plate E, in connexion

with the gearing *c d C* or its equivalent, as and for the purpose set forth.

I also claim the frisket *G*, when arranged as shown, to wit: the frisket being attached to the bar *k* provided with the bar *q*, and used in connexion with the bar *J* on the pen beam *I*, for the purpose specified.

No. 20,077.—JOHN A. LYNCH, of Boston, Mass.—*Machine for Wetting Paper*.—Patent dated April 27, 1858.—This apparatus consists of a hollow perforated cylinder *E* covered with cloth and containing water, and a second cylinder covered with blotting paper, the two cylinders being connected by a handle *I* and revolving in a frame *G*, whereby the sheet upon which the impression is to be made will be dampened by the water cylinder and the superfluous moisture absorbed by the second cylinder at one operation, by passing the machine once over the sheet.

The inventor says: I do not claim a hollow perforated cylinder through which water oozes, as a similar device has been used for coating the inking roller of a printing press.

But I *claim* the combination of the wetting cylinder *E*, handle *I*, and roller *H*, as described, the whole constituting a new implement or machine by which the sheet on which the impression is to be taken can be dampened, and its superfluous moisture absorbed by passing the apparatus once over the sheet.

No. 22,009.—MOSES S. BEACH, of Brooklyn, N. Y.—*Apparatus for Wetting Paper*.—Patent dated November 9, 1858.—The object of this invention is to wet paper in rolls, or endless sheets, for use in printing presses in which the paper is supplied from such rolls or endless sheets.

The operation of the machine consists in winding the paper off from roller *A* on to roller *C*, the water passing by capillary attraction through the flannel and depositing itself upon the paper while it is passing the roller *B*. The quantity of water is regulated by elevating or depressing the lip attached to the tank *D*.

Claim.—The employment of the cloth, arranged and operated substantially as and for the purposes described

No. 21,584.—CHARLES WILLIAMS, of Philadelphia, Pa.—*Apparatus for Coloring Paper, &c.*—Patent dated September 21, 1858.—This invention consists in providing an apparatus to be used in connexion with the usual "trough," or with a support of the paper, whereby the color is taken up and discharged, or distributed automatically upon the surface of the gum water or paper in such a manner as to produce a perfect uniformity in the design on the several sheets, whether the said spots or figures of the design be either of regular or irregular size and arrangement.

Claim.—Distributing or laying the color in the process of marbling or coloring paper, by means of an apparatus constructed so as to operate substantially in the manner and for the purpose described.

No. 19,831.—JOHN COCKBURN, of New York, N. Y.—*Improvement in Pen and Pencil Cases*.—Patent dated April 6, 1858.—This invention consists in the arrangement of means for operating the pen and pencil whereby the pen and pencil are pushed in and out of the case at the same end.

The inventor says: I do not claim, separately, operating the pencil tube C by means of the spirally slotted tube D, for this has been previously done.

But I *claim* the arrangement and combination, as shown and described, of a pen slide H, which girdles the tube G with a boss *b*, which latter girdles its tube B, for the purposes set forth.

No. 20,065.—THOMAS S. HUBSON, of Boston, Mass.—*Pen Cleaner and Holder*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* forming the inside of the stand with a tapering or bevelled-shaped neck, through which a bunch of bristles is drawn, as described, whereby, when the bristles are fastened at their lower ends with cement or glue, they are so rigidly held as to prevent their being drawn out or displaced.

I also claim, in combination with the above, the use of a hollow stand, the lower portion or base of which is fitted with plaster of Paris or other non-conductor of heat, whereby the cement or pitch in which the bottom of the bristles is embedded, is protected and prevented from being softened or melted by heat, as set forth.

No. 20,741.—SUSAN E. TAYLOR, of East Cambridge, Mass.—*Improvement in Fountain Pens*.—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim a pen combined or provided with a fountain or reservoir stationary within the handle or penholder, and having a conduit leading from it in a manner so as to conduct ink from the fountain to the pen; nor do I claim providing such fountain or reservoir conduit and pen with a piston to move in the reservoir; nor do I claim furnishing the fountain with a stop cock arranged in the conduit and to regulate the supply of fluid to the pen; nor do I claim providing the upper end of the reservoir or fountain with a screw cap, one or more air holes so arranged as to be covered by the screw cap.

But I *claim* an improved fountain pen, made with a penholder and a separate adjustable fountain *d*, applied so as to be movable with the holder, substantially as and for the purpose as described.

I also claim when the tubular reservoir is provided with a piston *f*, as described, arranging a small air hole *g* through the side of the reservoir, so that the piston, besides being able to perform the office of elevating the ink into the fountain, may be made to cover the air hole more or less and to operate as a valve to it, substantially in the manner and for the purpose as described.

No. 21,881.—JOSEF JOHNSON, of New York, N. Y.—*Improvement in Pen Fountains*.—Patent dated October 26, 1858.—The nature of this invention consists of the construction of a spiral spring fountain, at-

taching it to a pen or penholder as an adjustable and movable fountain, for the purpose of rendering it a fountain pen.

Claim.—The application to the ordinary pen of a spiral spring fountain A, when constructed with an adjustable band B, in the manner described, and for the purpose set forth.

No. 22,017.—JOHN S. CUTTS, of Philadelphia, Pa.—*Pen Fountain.*—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The elastic tubular fountain D, open at both ends, and so combined with the pen that the fountain may be filled with ink through its upper open end by dipping the pen, as set forth.

No. 21,758.—JOSEPH JOHNSON, of New York, N. Y.—*Penholder.*—Patent dated October 12, 1858.—The nature of this invention consists in making penholders of seamless thimbles formed with one solid or closed end, the solid end being perforated so as to form a suitable incision in the reception of the pen; the incision is cut in such a manner as to allow the pen to pass against the inner side of the thimbles, between the thimble and pen stock, or any other suitable substance in the thimble; in this manner the pen is conveniently attached or detached, and is held sufficiently firm by coming in contact with the end of the pen stock, or some elastic substance that may be placed in the thimble for that purpose.

Claim.—The thimble A, with incision C, when formed of one piece of metal and applied to the pen stock B as a penholder, operating as described and for the purposes set forth.

No. 20,056.—WALTER K. FOSTER, of Bangor, Me.—*Pencil Sharpener.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—As an improved article of manufacture, a pencil sharpener, made substantially as described, that is, of a steel or cutting blade and a cast metal body as specified, cast or founded on the said blade, so as not only to confine it in its proper place with respect to the conical cavity of the body or holder, but so that the metal of the body or holder shall embrace opposite sides and the back of the blade and terminate at or near the cutting edge of the blade, by a surface made to stand at a right angle or thereabouts to the outer surface of the knife, the same when the instrument is in use, serving not only to support the knife under pressure against its inner surface and cutting edge, but also to turn a chip or shaving so as to enable the sharpener to operate to great advantage on the lead and wood of the pencil, particularly when the wood is cross-grained.

No. 20,262.—WALTER K. FOSTER, of Bangor, Maine.—*Improvement in Pencil Sharpeners.*—Patent dated May 18, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* making the pencil sharpener with a space *e*, or its equivalent, so arranged beyond the inner end of the blade C as to cause the pencil lead to be turned or reduced cylindrically while passing beyond the inner or upper end of the knife.

I also claim the arrangement of the space *e* with reference to the handle, that is, so as to be separated therefrom or not open into the space or opening *f* thereof, the same being for the purpose as set forth.

I also claim making the body *A* of the pencil sharpener with a light port or opening *i* arranged opposite to the chip throat, and for the purpose described.

I also claim arranging the auxiliary chamber *e*, or its side *h*, with respect to the conical chamber *a*, so that while the lead is being cut by the knife the lead may not touch the side of the auxiliary chamber or be so near it as to be ground or injured by particles of lead which may adhere to the sides of the auxiliary chamber.

No. 21,649.—WILLIAM BURNET, of New York, N. Y.—*Slate Pencil Sharpener*.—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The manufacture of a pencil sharpener made of inclined cylindrical rods having raised teeth upon them, either in the form of screw threads or sharp parallel ridges, and the attachment of these to any suitable plate or framework of metal for securing the cylindrical bars or rods in their proper position, and for securing the whole to the framework of the slate, made and arranged substantially as described.

No. 19,191.—WALTER K. FOSTER, of Bangor, Maine.—*Improvement in making Bades for Pencil Sharpeners*.—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—For supporting small pieces of metal and aiding in their reduction to wedges or knife blades under the action of a grinder or grinding wheel, a gauge bed plate or holder constructed with recesses made so as to operate substantially as described, such bed being moved along under the grinder, or the grinder moved over it in such a manner as to successively reduce each of the blanks that may be within its recesses.

No. 20,219.—GERARD SICKELS, of Brooklyn, New York.—*Instrument for Sharpening Slate Pencils*.—Patent dated May 11, 1858.—This invention consists in a plate of steel having its transverse section formed with a concave arch for the greater portion of its length, and having float or file-like teeth on its concave arched face and eyes at its ends, which admit of tacks or screws to attach it to the frame of a slate. The pencil is held in proper position and scraped along it, and the teeth cut it to a point.

Claim.—The instrument consisting, as described, of a piece of steel, with an arched concave surface, on which teeth are cut, and with eyes at its ends to attach it to the slate frame or other foundation.

No. 21,679.—BERNHARD HUFNAGLE, of New York, N. Y.—*Improvement in Photographic Baths*.—Patent dated October 5, 1858.—The nature of this invention consists in the construction of silver baths, principally of the largest size, which shall require the smallest quan-

tity of solution of silver and at the same time preserve said solution from all foreign action, so as to be able to use the same a great number of times until the silver is all absorbed.

Claim.—The construction of a silver bath for photographic and ambrotype purposes, made out of two plates of glass, with india rubber between, and fastened together between wooden or other framework, in the manner described and for the purpose substantially as specified.

No. 21,470.—CHARLES C. HARRISON and JOSEPH SCHNITZER, of New York, N. Y., assignors to CHARLES C. HARRISON, aforesaid.—*Diaphragm for Photographic Cameras.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim* the adjustable diaphragm or stop described, composed of overlapping plates operating concentrically by the ring D, or its equivalent, said ring being operated from the outside of the tube by means of a lever or arm E, or other appropriate device, substantially as described for the purposes set forth.

No. 19,252.—WILLIAM LEWIS and WILLIAM H. LEWIS, of New York, N. Y.—*Improvement in Plate Frames for Photographic Cameras.*—Patent dated February 2, 1858.—The nature of this improvement consists in the use of a strip or bar of glass *g* in combination with a spring *h* in such a manner that the strip or bar will spring into the opening and cut off rays of light when the slide is withdrawn. There is attached to the frame corners of glass *e e* in such a manner to hold them firmly in their place, which receive the surface and edges of the glass or other photographic plate.

The inventors say: We *claim* the cut-off *g* of opaque glass or equivalent material, in combination with a suitable spring, by which said cut-off is made to close the aperture through which the slide passes, substantially as and for the purposes specified.

We also claim securing the corners *e* of glass or equivalent material into the frame by means of the rib and groove, substantially as specified.

No. 20,401.—AREND D. BOLLENS, of Newburg, N. Y.—*Improvement in Plate Holders for Photographic Cameras.*—Patent dated June 1, 1858.—This invention consists in a novel method of constructing a continuous glass lining, and fitting and securing the same in the frame of the plate holder to form a seat for the glass or other plate to prevent the chemicals with which said plate is prepared from coming in contact with the wood or other material of which the frame is made.

Claim.—The continuous glass lining *a a b b* of the frame, constructed and fitted, and secured in the frame, in the manner substantially as specified.

No. 22,158.—HENRY BRYANT and R. D. O. SMITH, of Washington, D. C.—*Photographic Plate Shield.*—Patent dated November 30, 1858.—In operating this device the outer end of the wire is drawn

from the camera to clear the ring from its slot, and then moved forward, the door being drawn open by the corresponding motion of the inner end of the wire A.

The inventors say: We do not claim the application of the door to the plate shield, for that has been used before.

But we *claim* the application of the bent wire or its equivalent, substantially for the purpose of opening and closing the door on the inside of the camera, in the manner and for the purpose described.

No. 21,829.—EBENEZER GORDON, of New York, N. Y.—*Photographic Shield*.—Patent dated October 19, 1858.—The interior of this frame forms a square opening of a little more than the longest length of the plate to be used therein. *d d* are the improved corners that are formed of suitable material, and each corner piece has two recesses for receiving the glass or other plate; the recesses 1 1 sustaining the same when the longest sides of the plate are vertical, and the recesses 2 2 receiving the plate when in position for a landscape or similar picture.

Claim.—The corners *d d*, formed with two recesses, and applied at the angles of a square frame, to receive the photographic plate or its equivalent in a horizontal or vertical position, as set forth.

No. 20,213.—THOMAS MILTENBERGER, of Bellefontaine, Ohio.—*Improvement in Compound Photographs*.—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The production of a compound photograph, or the taking of separate distinct photographic impressions on each side of a glass plate or transparent tablet, and producing thereby a compound relief or double stereoscopic effect on a single or simple plane or flat surface, in combination with a totally black back ground, through which solely is produced a transparent collodion film, in the manner substantially as set forth and described.

No. 19,626.—JAMES A. CUTTING and L. H. BRADFORD, of Boston, Mass.—*Improvement in Photolithography*.—Patent dated March 16, 1858.—The stone is first prepared, and after which has the following solution applied to its surface: Water, 1 quart; gum arabic, 4 oz.; sugar, 160 grains; bichromate potassa, 160 grains. The stone thus prepared is preserved in the dark until required, and when the coating is dried it may be exposed in the camera a suitable length of time to fix the gum upon those parts of the picture where the lights are to appear. After it is thus "lighted" the stone is washed with a solution of soap ($\frac{1}{2}$ lb. of soap to 6 quarts of water) which attacks the stone, removing the coating and fixing itself upon the surface in place of the coating removed.

The inventors say: We *claim* the employment of gum arabic deprived of its power of intimate union with the stone by means of sugar or its equivalent, as set forth.

And in combination with the above we claim the use of soap as set forth, for the purpose of readily removing the unlighted portions of gum, and of forming the printing surface, as described.

No. 19,081.—SPENCER B. DRIGGS, of New York, N. Y.—*Improvement in Piano-fortes*.—Patent dated January 12, 1858.—This improvement is intended to assist the vibration of the ordinary sound-board and increase the power of the instrument and the volume of its tone. The whole of the interior of the instrument below the usual sound board, by this improvement constitutes a sound chamber similar in character to the interior of a violin.

The inventor says: I do not claim generally the employment of two sound-boards in a piano-forte, as I am aware that they have been employed in two different ways, viz: in one mode both of them having been arranged within or above the bottom of the case, and in the other mode one having been employed in the usual position, and the other below the usual solid bottom of the instrument, and connected with the first named one by a sound-post passing through a hole in the solid bottom of the case.

But I *claim* so applying a second sound-board in addition to the ordinary sound-board upon which the strings rest, that such additional sound-board shall constitute a bottom, and the only bottom, to the case, and produce results substantially as described.

No. 19,857.—HENRY A. LEAMAN, of New York, N. Y.—*Improvement in Piano-forte Action*.—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the attachment of the hammer of an upright piano-forte action to the rear extremity of the key, and the arrangement of the notch *d* in the back side of the butt B of such hammer, so that the working face of the notch will operate substantially as described, in contact with the edge of a stationary bar *f*, and by such operation cause the hammer to move back to strike the string when the front end of the key is depressed.

Second. In combination with the attachment of the hammer to the rear extremity of the key, I claim the attachment of the damper to the hammer butt below the pivot *b* which attaches the hammer to the key substantially as herein specified, whereby it is made to serve as a stop to the hammer or means of regulating the length of stroke of the hammer, and depth or level of the key, substantially as described.

Third. I claim the application of the regulating screw *c* in the rear end of the key to operate in combination with a portion B¹, of the hammer butt extended below the pivot, which attaches the butt to the key, substantially as described.

Fourth. I claim the arrangement of the damper-lever C behind the downwardly extended portion B¹, of the hammer butt, substantially as and for the purpose specified.

No. 20,500.—JOHN V. MARSHALL, of Albany, New York.—*Piano-forte Action*.—Patent dated June 8, 1858.—A is the key; B the jack, with its base or socket *o*; D the flange upon which is pivoted the butt E of the hammer H; J the rest; and K the back check. The faintly shaded parts show the key when untouched and the corresponding position of the machinery, with the exception of the hammer H and butt E.

The inventor says: I am aware of the existence of the patent issued to James A. Gray, March, 1857, for an action intended to effect a movement of the hammer somewhat similar to that described in my specification; but I expressly disclaim the use of mechanism, like that set forth in his specification as constituting his claim, to make an action such as I produce upon the hammers of a piano-forte.

What I *claim* is the formation and position of the butt, as described and for the purposes set forth.

I further claim the combination of the butt spring S and back check, substantially as arranged and for the purpose set forth.

No. 20,595.—HENRY STEINWAY, of New York, N. Y.—*Improvement in Piano-forte Actions*.—Patent dated June 15, 1858.—The object of this invention is to provide for the instantaneous return of the jack to its notch in the hammer butt after the hammer has struck the string, for the purpose of enabling a quick repetition of the blow to be given.

Claim.—The spring *e* attached to an arm *j* at the back of the jack, and arranged relatively to the hammer, substantially as described for the purpose set forth, and in combination with the spring thus arranged and applied, I claim the hooked screw *k* applied to the arm *j*, as described, to adjust the spring relatively to the hammer and confine it laterally in a proper position.

No. 21,990.—WILLIAM B. STETSON, of Taylor, New York.—*Pedal Attachment for Pianos*.—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction and arrangement of the pedal chord bars *b b b* connecting suspension rods *c c c c c c*, and upper bars *f f f*, and finger rods *i i i i i i*, and operated as described, in combination with key-board instruments, and whereby the corresponding harmony of any melody or air is produced simultaneously therewith by the performer, through the agency of the feet, substantially as set forth.

No. 21,192.—WILLIAM GARDNER, of New York, N. Y.—*Improvement in Machinery for preparing Oval Picture Frames*.—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A lathe with a face plate E revolving in an oval path, in combination with a scraper L, adapted to the form of the desired moulding of the oval frame, when the said scraper is so arranged as to be self adjusting laterally with the said moulding, substantially as and for the purpose set forth.

No. 20,670.—PETER W. TOY, of New York, N. Y.—*Portfolio File*.—Patent dated June 22, 1858.—The nature of this invention consists in combining, with a portfolio and file for music, papers, &c., a contrivance for holding down the leaves of music while playing, and a device for converting the portfolio into a perfect bound book when full.

The inventor says: I do not claim separately the sides and back A B, or the mode of filing by the cords D D and rod C.

But I do *claim* separately the elastic bands E E and the loops F F, arranged and operating as described.

I also claim the combination of the portfolio cover with the file, loop, and bands, substantially as described, as forming a new, convenient, and useful article.

No. 21,902.—EDWIN PLATT and JACOB B. PLATT, of Clarke county, Georgia.—*Improved Copying Press*.—Patent dated October 26, 1858.—The nature of this invention consists in the manner in which the follower is made at pleasure to maintain a variable mean distance from the bed-plate, and in such an arrangement of the different parts of the press as that they can be easily separated from each other, and packed in a manner convenient for transportation.

The inventors say: We *claim* the stirrup F and its plates, arranged and operating substantially as set forth and described.

We also claim the frame A A¹ A¹¹, in combination with its levers, so arranged with the bed-plate and follower as that they can be easily separated from each other, and then packed to form a portable copying press.

No. 21,997.—DANIEL ZUERN and L. L. BEVAN, of Shamokin, Pennsylvania.—*Self-Inking Hand Press*.—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim* the combination of the arm or lever G, with the shaft H, the crank I, and the vertical revolving shaft J, and the connexion of shaft J with the revolving arm K, thereby accomplishing a double action, viz: first upon the ink roller D, second upon the movable bed E for reception of card or paper to be stamped or printed. By down vertical pressure of lever A, roller D moves horizontally over ink sponge F, and in contact with it.

We also claim the combination of finger *d* with hook *e* on movable bed-plate, with the mode of adjustment and disconnexion, for the purpose of effecting movement of movable bed-plate E, and also the movable bed-plate E, for the purpose substantially as set forth.

But we do not claim any other part or portion of the machine as new or of our invention.

No. 21,976.—JOHN NAGLE, of Altoona, Pennsylvania.—*Improvement in Presses for Embossing and Figuring Velvet, &c.*—Patent dated November 2, 1858.—This machine is operated in the following manner: As motion is given to the roller A by the wheels *a* and *b*, the chain *h* communicates this motion to the rollers B B, and the pulley on lever H H keeps the chain tight by means of the weight *w* attached to said lever. The lever L is provided with a weight R, which slides on the lever L by means of the slide *y*, which is moved by the wire-rope X by means of the wheel *n* and shafts G *g*. By these means any required pressure can be applied without necessitating the lifting or the changing of a series of weights. As the wheel *n* is turned to the right or to the left the weight R moves to or recedes from the end of the lever, thus causing an increase or decrease of pressure on the rollers.

The inventor says: I *claim*, first, the application of steam to presses for figuring silks, velvets, and similar materials, substantially as described.

Second. The combination of rollers A B B C, with the wheels *r r* and chains *z*.

Third. The double lever H H, in combination with the chain H and weight W.

Fourth. The movable guide N, in combination with the rollers, all in the manner and for the purpose substantially as described.

No. 20,276.—G. H. KORFF, of Hoboken, New Jersey.—*Improvement in Presses for Zincographic Printing*.—Patent dated May 18, 1858.—The nature of this invention will be understood from the claim and engravings.

The inventor says: I *claim*, first, the cylinder B, in combination with the inking rollers J J¹ and moistening rollers K K¹, when arranged as shown, namely, the rollers J K having their bearings connected with rods L, and used in connexion with the adjustable rings L¹, so that either of the rollers J K may be moved out free from the cylinder B, or all moved simultaneously as may be desired.

Second. In combination with the cylinder B and rollers J J¹, K K¹, I claim the pressure rollers C D, in connexion with the bars *k k* and shaft E, provided with projections *l l*, for the purpose of producing the "bite," or subjecting the paper to the proper pressure between the cylinder B and roller C.

Third. The feed-rollers F H, fitted in elastic bearings G *o*, and arranged relatively with each other, the pressure roller C, feed-board M, and cylinder B, as described, whereby with the aid of the curved rods N on the cylinder B the blank sheets are fed between the cylinder B and roller C.

Fourth. I claim the peculiar construction of the cylinder B and rollers J J¹, K K, as shown and described, viz: having plaster of Paris *d* moulded around tubes *e*, so as to obtain the necessary strength and inflexibility with a requisite degree of lightness.

No. 21,321.—ALEXANDER CALHOUN, of Hartford, Conn.—*Improvement in Printers' Composing Sticks*.—Patent dated August 31, 1858.—The nature of this invention consists in the application of a clasp band, attached and combined with the sliding knee bracket to prevent springing back by the pressure of tight spacing or long continued use.

Claim.—The application of the band B, in the manner and for the purpose substantially as set forth and described.

No. 20,714.—WILLIAM A. HUNTER, of Bryan, Ohio.—*Improved Type Case for Printers*.—Patent dated June 29, 1858.—The nature of this invention consists in the peculiar construction of the type case, whereby it is kept constantly clear from the dust resulting from the abrasion of the types, and in collecting the dust on a shelf or drawer, whence it can be removed when required.

The inventor says: I *claim* making the bottom of a type case of a

metallic screen or other perforated material, substantially in the manner and for the purpose described.

I also claim the sliding shaft C, in combination with the perforated bottom B of a type case, substantially in the manner and for the purpose described.

No. 21,429.—JAMES LORD, of Pawtucket, Mass.—*Machine for Printing Addresses on Newspapers, &c.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, 1st. Imprinting the name and addresses of subscribers and others on newspapers, envelopes, &c., by inserting type expressing such name and address in boxes secured spirally on the periphery of a revolving cylinder, and causing the said newspapers or envelopes to be successively pressed against the type in the boxes by means of a platen or follower *x*, which is made to act in concert with the cylinder, in the manner described.

2d. I claim the combination and arrangement of the connecting rod *z*, vibrating lever *p*¹, pawl *r*, ratchet *s*, and screw shaft M, for giving the required revolving motion to the printing cylinder B, and longitudinal motion to the platen *x*, and receiving, conducting, and distributing rollers *b h i*, in the manner and for the purpose described.

3d. I claim the combination and arrangement of the eccentric cams *u*, longitudinal shaft Y, and upright rod *m* for raising the platen or follower *x*, to produce the required impression upon the paper, as described.

4th. I claim the combination and arrangement of the cima-reversed slots *n*¹ in the ears *n*, and ends of the branch rods *k*¹, of the curved bars *k*, with the distributing and conducting ink rollers *h i*, in the manner and for the purpose set forth.

5th. I claim the combination of the adjustable plate *d*, oscillating bar *c*¹, and plate between which it is secured, and graduating thumb screws *f*, with the ink receiving roller *b*, as described.

No. 21,418.—GEORGE J. HILL, of Buffalo, N. Y.—*Printing and Numbering Press.*—Patent dated September 7, 1858.—By this invention the printing press is operated in a common manner. The numbering machine is connected to the bed plate and moves with it. As the bed plate is moved inwardly, the spring pall F catches into the teeth of the ratchet I, and causes the proper movement of the required number. B represents a numbering machine, and 1 2 3 4 the numbering wheels, each wheel containing all the numerals, so arranged as to form any required combination. Each wheel has the nine numerals and cypher thereon. In this operation the first card or ticket printed will be numbered at the same time the second card or ticket is printed and so on through the whole operation. The wheels can be set so as to commence with any desired number.

The inventor says: I *claim*, 1st. Having a shaft *c* extended from one end of the seat to the other, when said shaft is furnished at one end with a crank E, and at each end with a pinion or friction roller D, and said pinion or friction rollers work in connexion with large spur wheels or large friction rollers F F, which have the arms G G of

the back *d*, or the arms *H H*, of the foot board *c*, pivoted eccentrically to them, substantially as and for the purposes set forth.

2d. Attaching the arms of the foot board *c* to the lower spur wheel or friction rollers *F F*, by means of turning pivots and hinge joints *i* and *k*, in combination with attaching the suspension rods of the foot boards by loose eyes *h*, to long staples or brackets *g g*, substantially as and for the purposes set forth.

No. 21,723.—JOHN HOPE, of Providence, Rhode Island, assignor to Himself and THOMAS HOPE, of said Providence.—*Improvement in Rollers for Calico Printing*.—Patent dated October 5, 1858.—The mandrel connexion *c* is generally made from vulcanized caoutchouc composition, which, when cold, becomes solidified or indurated, such composition being composed of coal tar, pitch, sulphur, and caoutchouc, either alone or with other matter, and being that from which combs, walking canes, toys, &c., are now made and on sale in the market. This composition can be softened by heat or applied around a mandrel and vulcanized thereon.

The claim and engravings further explain the nature of this invention.

Claim.—The inventor says: My invention differs essentially therefrom, because the outer shell of my roller is not to be hardened by being heated and afterwards suddenly cooled on its cast iron carrier or cylinder encompassing the arbor or shaft, for the great heat of the outer shell would so heat the shaft connexion, composition, or shell as to either injuriously soften or melt it. Furthermore, another material difference is in the nature and character of the shaft connexion, as well as in the mode of effecting the same, it being not only formed by the process of casting it within a shell or tube, and around a grooved and slightly tapering cylindrical shaft, but made of a caoutchouc composition, or a material suitable for the purpose, and such as will admit of being cast or moulded between the arbor and tube, so as to form a proper connexion, therefore, of the kind described.

I claim my said new manufacture of calico printing roller made substantially as described, viz: of the copper shell *a*, cast metal foundation tube *b*, and with a mandrel connexion cast in the metallic shell or tube, and on an arbor or mandrel in manner and of a material substantially as described.

No. 19,797.—GEORGE SCHAUB, of Hamburgh.—*Improvement in Casting Types for Printing*.—Patent dated March 30, 1858.—The nature of this invention will be explained by reference to the claim and engravings.

The inventor says: I wish it to be understood that I do not limit myself to the precise details described and represented, as the same may be varied without departing from the nature of my said invention.

But I *claim* the new or improved manufacture of types for printing before described, and illustrated by the accompanying drawing, that is to say, manufacturing types for printing by casting the stems or bodies of the types at the back of a sheet of type heads, and finishing the same as described; also the manufacture of spaces used in setting

up printing types by the use of the movable frame described and represented.

No. 21,148.—ELISHA PRATT, of Salem, Massachusetts.—*Improvement in Printing-Ink Rollers*.—Patent dated August 10, 1858.—The following are the ingredients used in making these improved ink-rollers: Four pounds of glue, two ounces of gum shellac, in a sufficient quantity of alcohol to dissolve it, and one table spoonful of saleratus or sal soda.

The inventor says: I *claim* the employment of an alkali in the manufacture of inking rollers, in the manner and for the purpose substantially as set forth.

I also claim the use of rosin oil, rosin and shellac, in combination with the other materials employed, in the manner set forth, for the purpose specified.

No. 22,136.—JAMES SPENCER, of Toronto, Canada.—*Improvement for Printing Names or Directions on Packages, &c.*—Patent dated November 23, 1858.—The claim and engraving explain the nature of this invention.

Claim.—The application of common type, arranged in a form upon a plane bed, to the printing of successive names, numbers, or addresses, one at a time, upon papers, pages, books, tickets, or other articles requiring to be printed, marked, or addressed, and the construction of the machinery as described, or any other similar combination of machinery for producing the same motions, causing the bed to traverse, so as to bring all the names, numbers, or addresses in the form successively under the aperture in the tympan, and causing the matter placed under the platen to receive the desired impression.

No. 19,672.—HENRY A. BILLS, of West Winsted, Connecticut, and STEPHEN W. WOOD, of Cornwall, New York.—*Printing Press*.—Patent dated March 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventors say: We *claim*, first, setting a form of type upon flat rotating forms or beds in separate and independent columns arranged alternately upon the peripheries of cylinders, with corresponding cylinders upon whose peripheries are segments of impression cylinders, the whole arranged substantially as described.

Second. Grooving or notching types, and keying them by independent keys *a e* to a bed or form, in the manner and for the purpose substantially as set forth.

No. 19,758.—G. W. DAVIS, of Seneca Falls, N. Y.—*Improvement in Printing Presses*.—Patent dated March 30, 1858.—By raising and lowering the outer end of the lever G, the platen E will be swung or moved up and down, and a reciprocating motion also given the bed C. The form D is inked as it passes under the lower rollers L L, and the blank sheets are laid upon the frisket K¹, which, when the plate descends or is depressed, yields or gives to its pressure in consequence of its elasticity in connexion with its spring bearings *n n r*, so that

the sheet will be pressed down upon the form D by the platen and receive the impression.

Claim.—The arrangement of the double-armed lever G, plate E, bed C, and the adjustable spring frisket K¹, as and for the purposes shown and described.

No. 20,090.—THOMAS S. REYNOLDS, of Athens, Georgia.—*Printing Press.*—Patent dated April 27, 1858.—The nature of this invention is described by the claim and engravings: I *claim*, first, the rotating segment D, in combination with the intermittingly rocking bed Y, when constructed and arranged to operate as described, to wit: the segment having a continuous rotary movement while the bed rocks to and from the segment, and remaining, while in a vertical or nearly vertical position, stationary a sufficient length of time to have the form properly inked.

Second. The inking device, formed of the fountain J and the roller K L N O *tt*, operated by the cams S T, levers U V, bar W, and the frame M, with the weight *h* and cam *e*, arranged to operate conjointly with the segment D and bed Y, so that the form will be properly inked during the “dwell,” or the cessation of the movement of the bed, as described.

Third. The counterpoises Z Z, when used in connexion with the springs *o*¹, as shown, whereby the counterpoises may be graduated as circumstances may require.

Fourth. The frame F¹ attached to the shaft D¹, which is fitted in the bars E¹, and having the spring *w*¹ and rod *w*¹ attached, substantially as described, and for the purpose set forth.

No. 20,204.—GEORGE P. GORDON and F. O. DEGENER, of New York, N. Y.—*Improvement in Printing Presses.*—Patent dated May 11, 1858.—This invention relates to an improvement in that class of printing presses in which a continuous rotating cylinder that receives the sheet to be printed is used in connexion with a reciprocating bed K, on which the form is placed. The object of this invention is to simplify the construction of such presses, and also to give a positive or arbitrary movement to the cylinder and bed relatively with each other at the time the impression is given to the sheet.

The inventors say: We do not claim the peculiar manner of hanging or arranging the reciprocating bed K, for that is already patented, as previously stated.

Nor do we claim broadly giving a continuous rotary motion to a cylinder, when used with a reciprocating bed, as this has been previously done, and is common to many cylinder presses in use.

But we *claim* communicating motion to the cylinder at the time of giving the impression by and through the motion of the bed, while the revolution of the cylinder shall be perfected by or through ordinary gearing, or other means entirely independent of the motion of the bed, thus alternating from one of these means to the other to give a full revolution to the cylinder.

No. 20,874.—GEORGE P. GORDON, of New York, N. Y.—*Improvement in Printing Presses*.—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, one or more sets of grippers or nip-pers, independent in themselves, which shall revolve upon their axes, and carry the sheet from its point of feeding to its place of deposit, whether operated in the precise manner described or in some equivalent way.

Second. I claim the “stop,” or its equivalent, for holding the said grippers, or their equivalent, in the desired position, for the purpose of insuring an exact and regular feeding, registering, and delivering of the sheet, as fully set forth.

Third. I claim one or more sets of grippers, (which revolve upon their axes) having a movable base, with fingers to close upon said base and hold the sheet, whether constructed in this precise manner, or in some equivalent way, to produce a like result.

Fourth. I claim the combined action of said grippers and the vibrating springs, strips or frisket, for the purpose of conveying the sheet to and receiving and holding it in the proper position for the reception of the impression, and insuring its proper delivery after it shall have been printed.

Fifth. I claim the vibrating double cam for throwing off and on the impression.

Sixth. I claim two or more distributing rollers, having a lateral motion upon a main distributor, which shall move independent of and in opposite direction to each other, and thus alternately cross and recross each other's distribution, for the purpose of giving an uniform inking.

Seventh. I claim the relative arrangement of the feed table, the fly-board, the platen and the bed, substantially as described, in combination with the revolving grippers.

Eighth. I claim the two distributions given to the inking rollers upon one cylinder for each impression, (heretofore patented by me,) in combination with the rotating reciprocating bed with its spring extensions, as fully set forth.

Ninth. I claim the fly-board with its adjustable ledge in combination with the grippers, to insure the even piling of the sheet, whatever its size may be.

No. 21,080.—FREDERICK B. NICHOLS, of Morrisania, N. Y.—*Improvement in Printing Presses*.—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the employment of the polished metallic roller K, arranged immediately in front of the inking roller H, and made adjustable by set-screws, so as to enable its smooth periphery to be pressed against the periphery of the printing cylinder on a line parallel with the axis of both, and with such force as to prevent any ink on the engraved surface of the printing cylinder from passing between the two, and thereby removing the excess of ink from the smooth portions of the electrotype or thin plate, and causing the same

to descend over the rising side of the said polished roller K into the ink trough M, as described.

Second. I claim arranging the rollers P P¹, and endless band R over the same, in front of and in such relation to the periphery of the printing cylinder C, as to cause the descending portion of the endless band R to extend from the same tangential to a circle smaller than it in diameter, and to bear upon a portion of the periphery with an equal degree of tension over every part which it touches, and giving to the said part of the endless band a zigzag movement by means of the zigzag grooved drum Y and lug or arm *b*, in the manner and for the purpose set forth.

No. 21,154.—E. EDWARD SNEIDER, of New York, N. Y.—*Improvement in Printing Presses*.—Patent dated August 10, 1858.—This invention consists in the employment of a revolving segment frame which receives the blank sheets of paper, and serves at the same time to carry and support the inking rollers and to communicate motion to the same; in the employment of a rocking bed, on which the form is placed, and between which and the segments the impression is given, said rocking bed being worked likewise from the segment frame and provided with suitable ways on its under side passing over rollers to produce the required impression; and also in the employment of a novel fly-motion by which the printed sheets are brought upon the fly-board.

The inventor says: I *claim*, first, the revolving double segment frame, with segments balancing each other, in combination with a rocking type-bed T, operated through the segment frames, substantially as described.

Second. I claim the rocking type-frame T, with eccentric ways W attached, working over fixed rollers, in the manner and for the purpose described.

Third. I claim the arrangement and the manner of operating the distributing cylinder E, supported between the segment frames C upon the shaft B, to which the segment frames are attached, said cylinder being made to revolve in the opposite direction to the motion of the shaft, and having at the same time a side motion communicated to the said cylinder for the purpose of distributing the ink upon the inking rollers, as described, in connexion with an arrangement of inking rollers operated in the manner substantially as specified.

Fourth. I claim the arrangement and construction of the fly-motion in the manner and for the purpose as described, operating in connexion with the nipper 8 substantially as specified.

No. 21,228.—DANIEL WOLFE, of Dixon, Ohio.—*Improvement in Printing Presses*.—Patent dated August 17, 1858.—The machine being set in motion for inking the type, the sheet to be printed is laid upon the frame *x* and friskets *u u*; the rollers being inked, crank *f* is turned until the platen is raised, then crank *f* remains stationary and crank *g* is turned, running the carriage under the platen until the sheet stands directly under the platen, between it and the type; then the carriage stands still, and, by turning the crank *f*, driving

wheel C operates upon wheel D, the shaft of which operates pitman *n*, which draws toward the centre of the machine straightening bars M M¹, and M bearing upon the frame *e* to which the platen is secured, the platen is brought down upon the sheet, pressing it against the type, thus making the impression.

Claim.—The inventor says: I *claim* the self-emptying spring friskets *u u*, arranged with the springing frames *x x* in the manner set forth, and these in arrangement with the stationary bed plate, falling platen frame L, bars M and M¹, and lever *p*, when all are combined and constructed in the manner and for the purpose set forth.

No. 21,528.—ERVIN B. TRIPP, of New York, N. Y.—*Printing Presses*.—Patent dated September 14, 1858.—This invention consists, first, in attaching to and combining with the type cylinder of a rotary printing press a flattened plate or type bed which contains the type and revolves with the cylinder, and is so attached to it as to move over the impression cylinder in a circular line or in the arc of a circle; second, in a feeding roller, operated by a positive movement derived from some of the rotating parts of the press, which can be adjusted in its movements to feed the paper to be impressed by the type at such given portion of the movement of the type cylinder as may be required to give the paper the requisite amount of margin; and third, in a feeding guide, up to and against which the paper to be printed is fed, and which is governed in its movements by the movements of the feeding roll, so that it is elevated to allow the paper to pass it, when the feeding roll is depressed and brought in contact with the paper to feed the paper to the press, and is depressed when the feeding roll is elevated and raised from the feeding table.

The inventor says: I do not claim producing a printed impression from type attached to and revolving with a type cylinder.

But I *claim*, first, the employment, in connexion with the type cylinder D, of a cylinder or rotary printing press, of a flattened plate or type bed H, in which the type to produce the printed impression upon the paper are placed, which plate or type bed is revolved with that cylinder, and is so connected with and attached to it as to have the face of the type contained in it move over the impression roller I in the arc of a circle, as and for the purposes set forth.

Second. The feeding roll L, operated by a positive motion, as specified, when combined with and elevated and depressed by the arms M and cams N, in the manner and for the purpose described.

Third. The feeding guide *o*, operated in connexion with the feeding roll L, as and for the purpose set forth.

No. 21,484.—JAMES A. CAMPBELL, of New Orleans, Louisiana.—*Improvement in Printing Presses*.—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the teeth placed on a portion of the perimeter of the roller M for the purpose of pushing the card through the opening above the perpendicular grooves *c c*, by the operation of these teeth on the surface presented by the front card of the pack, in combination with the rollers *f f*, substantially as specified.

Also, the adjustable plates *g g*, as specified, for the purpose of regulating the opening through which the cards have to pass, to the thickness of the card.

Also, the combination of the stationary arm *T*, ball and socket *Z*, rod *U*, short arm *V*, and the working joint *Y*, for the purpose of giving the inking cylinder a lateral motion.

No. 22,027.—CHARLES MONTAGUE, of Hartford, Connecticut.—*Improvement in Printing Presses*.—Patent dated November 9, 1858.—The nature of this invention consists in such an arrangement of a horizontal reciprocating bed and revolving cylinder for impression that the surface of the bed or form placed upon it shall always travel in correspondence with the surface of the cylinder, and the cylinder is made to complete its revolution by other means independent of the motion imparted to it by the bed after the impression is given.

Claim.—Communicating motion to the cylinder at the time of giving the impressions by and through the motion of the bed, while the revolution of the cylinder shall be perfected by or through ordinary gearing, or other means entirely independent of the motion of the bed, thus alternating from one of these means to the other to give a full revolution to the cylinder, in the manner substantially as set forth.

No. 22,010.—MOSES S. BEACH, of Brooklyn, N. Y.—*Improvement in Printing Presses*.—Patent dated November 9, 1858.—The object of this invention is to dispense with the use of tapes in throwing the sheet out from the impression cylinder of a printing press after it has received its impression. The engravings represent its application to an eight-cylinder type-revolving press constructed for printing the sheet on both sides at one operation, in accordance with the improvements patented by this inventor in 1856.

Claim.—Producing intermittent blasts of air by means of the revolving hollow core *A*, having openings *d d*, and the stationary box *B*, having openings *e e*, arranged and operating substantially as shown and described.

No. 22,181.—DAVID E. JAMES, of Utica, N. Y.—*Printing Press*.—Patent dated November 30, 1858.—The plan of this press is designed to furnish the means by which one person may, by a continuous operation, place the cards to be printed upon the press, print and remove them; inking the type by the same movement which carries and returns the paper, and the whole work completely and rapidly.

The inventor says: I *claim* the arrangement and combination of the leverage, as described, through which the operations of the press are performed, including the use of the spring *S* which permits the extension of the lever *q* while the carriage is at rest, as described.

I also claim, in combination with the said arrangement of leverage, the swinging-post *V* and its connexion with the lever *O*, as described; the whole being arranged and operating substantially in the manner set forth.

No. 22,414.—S. R. COTTON, of Green Bay, Wisconsin.—*Printing Press*.—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* operating the form-bed J from the pressure-cylinder B by means of the cam, or eccentric *m*, provided with the pins *o*; rack-bar D, provided with the projection *p* and roller *n*; the pinions E G on the shaft F, with or without the pinion H; slide-bar L and springs *s*, and the rack-bar I; the whole being arranged to operate as and for the purposes set forth.

I also claim the toothed sector x^1 which gears into the pinion *y* of roller α^1 , and is connected with the rack-bar and the arm *w* of the sector provided with the pin *o*, the rod c^1 attached to the arm d^1 , the pawl v^1 attached to the arm d^1 , and the ratchet h^1 attached to the roller g^1 ; the whole being arranged, as shown and described, so that the inking device will be operated automatically from the pressure of the roller.

I further claim having the bearings *b b* of the pressure-cylinder attached to the rods *d d* which are connected by tension-nuts *e e* to straps *f* that encompass the eccentrics *g* of the shaft *h*, for the purpose of readily raising when necessary the cylinder B and regulating its pressure.

No. 21,591.—WILLIAM BULLOCK, of Newark, New Jersey, assignor to GEORGE W. TAYLOR, of said Newark.—*Automatic Paper-Feeder for Printing Presses*.—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* operating the hands, or their equivalents, which effect the feeding of the sheet of paper in manner substantially as set forth, so that they have a greater capacity for moving the sheet than is necessary for the purpose.

I also claim controlling the operation of the hands, or their equivalents, upon the sheets of paper by mechanism, whose operation is dependent upon the position of the sheet being fed, so that the length of time during which the hands, or their equivalents, are permitted to act upon each sheet of paper does not bear any fixed relation to the movements of the other parts of the printing press.

I also claim intermitting the operation of the hands, or their equivalents, upon the paper while the latter is being drawn into the press by mechanism, acting substantially as set forth.

I also claim effecting the progressive movement of the pile of paper by mechanism whose operation is dependent upon the position of the pile, substantially as set forth.

I also claim the combination of the flap-guides and nozzles, or their equivalents, for stopping the movement of the forward edge of the sheet and for releasing the same in the manner described.

I also claim moving sheets of paper by automatic rubbing-hands, or their equivalents, constructed substantially as set forth.

I also claim operating the stop-cocks of the air-cylinder and the flap-guides by a cam, or its equivalent, whose movement is coincident with or bears a fixed relation to the movement of the fingers which draw the paper into the press.

No. 20,039.—WILLIAM W. CLARKSON, of Baltimore, Md.—*Card Printing Press*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination, by the peculiar arrangement of mechanism specified, of the slide D, which feeds the cards singly from the card-box; the bed-plate B, which supports and carries the impression form; and the inking-roller C, which inks said form, substantially as and for the purposes set forth.

Second. The combination of the vibrating slide D, which feeds the cards singly with the groove-guide F F, which receive and retain the cards below the platen, and directly above the impression form while being printed, substantially as and for the purposes set forth.

Third. The peculiar manner of adapting the card-box F¹ for cards of different widths, lengths, and thicknesses, to wit: by having its side front and back boards or strips adjustable laterally, perpendicularly, and longitudinally, by means of slots and set-screws, substantially as and for the purposes set forth.

No. 22,011.—MOSES S. BEACH, of Brooklyn, N. Y.—*Improvement in Feeding out Paper from Printing Presses*.—Patent dated November 9, 1858.—The object of this invention is to conduct sheets of paper from more than one impression cylinder or source of supply into a single set of guide-tapes, and also to count them in desired quantities.

The inventor says: I *claim*, first, the stationary guides M S, and the arrangement of the rollers E R G, or their equivalents, by which sheets coming from different directions are conducted into a single set of guide-tapes or strings, in the manner substantially as shown and described.

Second. Counting sheets into desired quantities by a counting-table, consisting of an endless belt having an intermittent motion, arranged and operating substantially as shown and described.

No. 20,556.—CHARLES A. HASKINS, of New York, N. Y.—*Improvement in Hand Printing Presses*.—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The application of the ink reservoir G with the plunger or gate F of gutta-percha, or its equivalent, for letting down the ink, in combination with the spring bed plate J and the inking roller E, which is accommodated to the face of the type in the process of inking by means of slots in the arm N and spiral springs attached to the same, substantially as described.

No. 21,980.—JAMES N. PHELPS, of New York, N. Y.—*Improved Hand Printing Presses*.—Patent dated November 2, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, first, the combination and arrangement of the radial pins T, on the transverse shaft and shoulder cams s, on the sides of the lever N, oscillating arms J, spiral springs U, for moving the same automatically, and spiral springs M, for pressing the inking roller in contact with the printing rollers Q R, when receiving the ink from the same, and in contact with the face of the

type in the form secured to the under part of the platen G, substantially in the manner and for the purpose described.

Second. I claim arranging the inking rollers Q R in the relation to each other and to the inking roller K, at the lower end of the bars or arms J, and the lower surface of the platen G, when raised as described, and in combination therewith.

Third. I claim the segmental shield or plate P, so arranged in relation to them and the corresponding segmental formed arm or support C, as to thoroughly protect the sheets of paper being imprinted from contact with the said inking rollers, and enable its edges to be moved upward in the space between the shield or plate P and arm or support C, substantially in the manner as described.

No. 21,859.—LEMUEL T. WELLS, of Cincinnati, Ohio.—*Paper Feeder for Printing Presses*.—Patent dated October 19, 1858.—This invention consists in mounting the nippers on a frame having a limited motion concentric with, but independent of, the cylinder 1, the object being to insure a more perfect feed by causing the nippers to seize the paper while in a quiescent state, or moving in an opposite direction to the cylinder.

Claim.—In the described connexion with the cylinder of a printing press, the vibrating frame A, bearing the nippers 10 and opposing bar A¹, and operated substantially in the manner and for the purpose set forth.

No. 20,179.—L. T. WELLS, of Cincinnati, Ohio.—*Improvement in Tympan for Printing Presses*.—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Attaching the cloth or parchment B to the frame A of the tympan by means of the leather strips c provided with eyelets d, said strips c being fitted in grooves or rebates in the frame, and the cloth or parchment attached to the strip of the lace C, substantially as described.

No. 19,881.—BENJAMIN B. STANTON, of New York, N. Y.—*Hand Printing Stamp*.—Patent dated April 6, 1858.—The nature of this invention consists in the arrangement and operation of the printing die, it being so constructed as to move readily from the ink pad to the printing pad, which are both placed in line upon a base of cast iron, or any other suitable material, and the printing die moving from one to the other in a straight line. To accomplish this movement, the stamping rod, to which the die is attached, passes freely through a spool having a square form, which slides freely backward and forward between two guides, and upon a plane bed arranged for that purpose upon a stationary arm over the inking and printing pads.

The inventor says: I am aware that hand stamps for printing have long been made with a movable die, for the purpose of first being brought in contact with the inking pad, and then with the printing pad. I do not claim such movable die.

But I do *claim* moving the die from the inking pad to the printing pad and backwards by means of the spool A A through which the

stamping rod passes, operating in a straight line between parallel guides arranged for that purpose upon a stationary arm over the inking and printing pads.

I also claim, in combination with the sliding spool A A, the catch F, when arranged and operated in the manner and for the purpose specified.

No. 22,358.—SAMUEL FRIEND and GEORGE SEILER, of New York, N. Y.—*Extension Finger Ring*.—Patent dated December 21, 1858.—The nature of this invention consists in the use of a divided spring ring with the ends connected together by folding bars, which both form an ornamental connexion, or carry ornaments of stones or other setting, and attach the ends of said spring ring to each other.

Claim.—The combination of the spring ring and folding bars, substantially as and for the purposes specified.

No. 20,273.—JAMES HARRISON, of Albany, N. Y.—*Improvement in Signs*.—Patent dated May 18, 1858.—The claim and engraving will explain the nature of this invention.

Claim.—The construction of block letters, figures, and other devices, with an interstitial surface of carved ornamental work, with which a colored or illuminated back ground may be employed for rendering signs clearly perceptible at a great distance when viewed obliquely, substantially as set forth.

No. 19,970.—JOHN T. WELLMAN, of Lowell, Mass., assignor to CHARLES O. THOMPSON, of said Lowell.—*Improvement in Signs, Door-Plates, &c*—Patent dated April 13, 1858.—The nature of this improvement in door-plates and signs consists in covering the leather, cloth, or paper, or other material which is to form the foundation of a sign, with a coat of Japan varnish, and drying them in a high heat and rubbing the glass off with rotten stone or similar powder; then pressing the gold, silver, or other kind of leaf on the varnished surface with heated types, rollers, or other tools; then laying the material with the varnished or gilded surface on the glass which is to form the covering for it, and heating the glass and the varnished surface, and then applying pressure at the same time until the varnished surface adheres to the glass, making a water-proof plate adapted to in-door and outdoor service.

Claim.—The new manufacture of door-plate or sign described, to wit, a transparent plate having a backing containing the name or device affixed to said backing, and the backing affixed to the plate, as described.

No. 21,798.—SAMUEL L. HILL, of New York, N. Y., assignor to *Spelling Block*.—Patent dated October 12, 1858.—The nature of this invention consists in preparing a series of wooden blocks of any required number, each block having placed upon it certain letters of the alphabet, for the purpose of spelling. The object of this invention is to place in the hands of children a useful and instructive recreation.

ALBERT PALMER, Himself, and A. SIDNEY DOANE, of said New York.—

The inventor says: I *claim* the arrangement of letters on any number of six-sided blocks, in the manner described and for the purpose specified.

Second. I claim giving to and placing upon each block its proper numerical figure, for the purpose specified.

No. 20,922.—WILLIAM MORSE and JOHN HUGHES, of Boston, Massachusetts, assignor to GEORGE H. DEVEREUX, A. F. DEVEREUX, O. W. BARRETT, and E. E. BARRETT, of Salem, Massachusetts.—*Improvement in Hand Stamps*.—Patent dated July 13, 1858.—The nature of this invention consists in combining with the bed and stamp, or printing mechanism, a "letter cast-off," or device or mechanism for discharging a letter, or its equivalent, from over the bed after such letter may have been stamped.

The inventors say: We *claim* combining with the stamping mechanism a cast-off mechanism for discharging the letter or article to be stamped from the bed or the cast-off over the same.

We also claim combining the pad or cushion *h* with, or arranging it directly upon, the cast-off or plate *K* thereof, substantially as specified.

We also claim the combination for operating the cast-off, the same consisting of the arm *r*, the tripper *n*¹, the arm, the shaft *L*, and the spring *k*, the same being arranged and made to act together essentially as specified.

No. 20,217.—S. E. PETTEE, of Mansfield, Massachusetts, and ELIAS G. COBB, of Foxborough, Massachusetts.—*Improvement in Self-Inking Hand Stamps*.—Patent dated May 11, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The hand stamp, the roller *Q* or its equivalent on the lever *H*, working against the curve *R* or its equivalent on the lever *N*, to operate said lever and carry the inking roller on, across, and off of the type parallel or nearly parallel with the face of the type, so as to ink them uniformly and evenly to make a fair impression.

No. 22,272.—ROBERT A. ADAMS, of St. Louis, Missouri.—*Improvement in Stencil*.—Patent dated December 14, 1858.—The body of the stencil is of paper, or its equivalent, which is first soaked in shellac and oil, the proportions of which must be regulated by the amount of stiffening required in the stencil. After the stencil blank has been thus soaked in shellac and oil the back of it is coated with glue, to which a coating of sand or emery is applied, after which it is allowed to dry, which completes the stencil blank.

Claim.—The preparation of the "stencil" blank in the manner described, to wit: in oil, shellac, and glue, applied as set forth; and I also claim the application of the sand or emery to the back of the "stencil," in the manner described, for the purpose specified.

No. 19,943.—JOSEPH H. MERRIAM, of Boston, Massachusetts.—*Stencil Pallet*.—Patent dated April 13, 1858.—*a a* exhibits a flat, flexible, or elastic plate, made of tinned iron or other suitable mate-

rial, and forming the top of a narrow reservoir *b* which, if desirable, may be provided with a handle *c*. Such reservoir should have a filling hole or mouth *d*, furnished with a stopple *e*, which may screw into it or be otherwise applied so as to fit closely and be air-tight.

Claim.—As a new manufacture, a stencil maker's pallet or pot, constructed substantially as described.

No. 20,081.—JOHN McELHERAN, of Brooklyn, New York.—*Method of Preparing Stereotype Plates.*—Patent dated April 27, 1858.—The nature of this invention consists in using letter dies for the purpose of impressing them into the surface of a plate, the plate, or material with which the plate is covered, being softer than the material of which the dies are made; the arrangement being such that the letters will all be sunk to a uniform depth, in order that a cast or electrotype may be taken of said plate, for the purpose of printing the former on a letter press.

Claim.—The method described of producing a plate of fixed metallic types for printing from, by stamping letter dies in succession to each other into a plate made of or coated with such a substance as will readily take and preserve their impressions, and allow a stereotype or electrotype to be made thereof, either directly or by means of an intermediate plaster cast, whereby the ordinary process of setting and distributing the type is dispensed with, and but one set of types is used, substantially as set forth.

No. 21,341.—IRA A. IVES, of New York, N. Y.—*Lock-Joint Fastener for Studs, &c.*—Patent dated August 31, 1858.—The object of this invention is so to arrange and connect a pin, either with a shirt button, stud, or breastpin, or any like article, that when once secured to the clothes it shall not become unfastened, either by pulling or by accident. And this invention consists in connecting the pin to any article, such as a shirt stud, &c., by means of a spring joint in combination with a recess so arranged and situated that the pin when drawn in by the tension of the spring shall have its point below the projections forming the said recess, and thereby prevent the pin from being drawn out of the clothes.

The inventor says: I do not wish to be understood as limiting any claim of invention to the two special modes of application described, as, no doubt, other modes of applying the principle of my invention may be devised.

What I *claim* is the spring-hinged pin, in combination with the recess, substantially as described, and for the purpose specified.

No. 19,645.—JOHN McELHERAN, of Brooklyn, N. Y.—*Improvement in Picturetypes.*—Patent dated March 16, 1858.—A smooth and level plate of glass is covered with a thin layer of beeswax. The original drawing is then placed under the glass, and its lines, seen through the glass and wax, are to be followed and engraved through the wax by means of engraver's tools. A plaster cast is next taken, which when dry is to be varnished with cement. Fine silex powder-ground

glass, sand, or the like, is then thickly put on the varnished parts; when dry and hard the loose grains are to be brushed off.

Claim.—The mode described of preparing the picturetypes to be printed from granulated surfaces, producing various shades and effects, for the purposes specified.

No. 22,423.—HENRY HARGER, of Delhi, Iowa.—*Mechanical Typographer.*—Patent dated December 28, 1858.—This invention consists in an improved arrangement of means for actuating type, feeding thereto the article or substance to receive the impressions, and also for keeping the parts properly adjusted relatively with each other, so that the desired work, viz: printing direct from the type, may be performed with great facility.

The inventor says: I *claim*, first, the employment or use of the bed piece B, frames D and C, and type frame formed of the plates E E, arranged substantially as and for the purposes set forth.

Second. The particular means employed for feeding the frame C, and paper or wax to the type, to wit: the bent lever G connected with the hand lever F', the ratchet H, and cords or chains *o* attached to the frame C.

Third. Regulating the feed movement of the frame C, by having the types *h* made of varying heights or lengths, so as to give corresponding lengths of vibration to the lever F, substantially as described.

XIX.—FIRE-ARMS.

No. 21,219.—RUFUS SIBLEY, of Greenville, Conn.—*Improvement in Bomb Lance.*—Patent dated August 17, 1858.—This invention consists, first, in making the shank or guiding part of the projectile in skeleton, and this whether the connexions be made by solid bars or tubes. Secondly, the confining of the fuse in the fuse tube, by compressing the end of the fuse tube after the fuse is inserted; and thirdly, the construction of the guiding wings and their location, so as to be closed upon the skeleton shank.

The inventor says: I *claim*, first, uniting the front and base of the bomb or projectile by tubes or bars in skeleton, substantially as set forth.

I also claim confining the fuse in the fuse tube, by drawing down the end of the tube upon the fuse after it is placed therein, for the purpose set forth.

I also claim, in combination with the skeleton shank or connexion, the wings *g g'*, whether used in pairs or single, but so that they may be pressed down into and singly fit the spaces between the skeleton ribs, tubes, or bars, and be thrown out when the bomb is projected, as set forth.

No. 22,054.—A. F. ANDREWS and J. H. ANDREWS, of Avon, Conn.—*Improvement in Bomb Lance*.—Patent dated November 16, 1858.—A is a cylindrical tube of cast metal, and having a conical or pointed front end *a*. B is a plug which is screwed into the back end of the tube A, and has a recess *b* formed in it. The plug B may be partially or wholly formed of soft metal, such as lead or Babbit's metal, and an annular groove *b*¹ is made in its back end. In the tube A two grooves are made circumferentially, in which soft metal bands *d* are placed, the bands *d* projecting somewhat beyond the periphery of the tube, as shown in the engraving.

Claim.—The employment of the independent movable fuse tube D, arranged within a bomb lance, substantially as shown and described, so that the fuse will be ignited by the motion of the missile.

No. 21,463.—CALVIN YOUNG, of Auburn, N. Y.—*Improvement in Bullet Machine*.—Patent dated September 7, 1858.—This invention relates to the mode of constructing machines for the manufacture of bullets from cold lead by pressure, in respect to which a caveat was filed by said Calvin Young in the month of April, 1857.

The claim and engravings give an idea of the nature of this invention.

The inventor says: I *claim*, first, the application of elastic rolls, for the purpose of feeding lead wire into the machine, substantially as described.

Second. The application of the arrangement or device for gauging, cutting, and depositing the lead into the dies by the same instrument, and the manner of constructing and operating this portion of the machine, substantially as described.

Third. The application of the arrangement or device of lateral punches for removing the bullet from the dies, substantially as described.

The above is a full description of improvements in the mode of constructing machines for the manufacture of bullets from cold lead by pressure, in respect to which a caveat was filed by said Calvin Young in the month of April, 1857, in the secret archives of the Patent Office.

No. 21,505.—JOHN ARIS KNIGHT, of St. Louis, Mo.—*Improvement in Bullet Machine*.—Patent dated September 14, 1858.—This machine is composed of one or more stationary and one or more swinging mould bars arranged in pairs, and containing the halves of a number of moulds combined with a sliding pouring trough or plate, which constitutes at the same time a series of cutters, and with proper mechanism for operating the said swinging bar or bars and pouring trough or plate.

The inventor says: I do not claim the combination of the stationary and swinging mould bars.

But I *claim*, first, arranging the movable mould bars, so that in opening the moulds they move not only away from the stationary mould bar, but to some extent in a direction transverse to the said stationary bars, as set forth and illustrated in fig. 1, to produce the dragging

action described, for the purpose of loosening the bullets from both parts of the moulds.

Second. Arranging the said swinging mould bars between centre screws I I, applied in such manner as to provide for their adjustment longitudinally, to obtain a perfect registration of the two halves of the several moulds.

No. 22,286.—RICHARD GORNALL, of Baltimore, Md.—*Improvement in Machine for Making Hollow Bullets*.—Patent dated December 14, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I do not confine myself to the use of a single core, as a series of cores may be arranged on a revolving or reciprocating plate operated to carry them alternately, first into positions to combine with the dies, and afterwards into proper positions relatively to a cutter or cutters to turn the bullets; nor do I confine myself to the use of a core of any particular form, nor to the manufacture of any particular form of bullet, nor to the use of any particular contrivances for giving motion to the several parts of the machine.

But I *claim*, first, the employment, in combination with a punch and a set of dies, or their equivalent, for pressing blanks or pieces of lead into a form approximating more or less to the desired form for hollow bullets of a revolving core, serving, firstly, to produce the cavities in the bullets, and, secondly, as a mandrel to revolve them, for the purpose of finishing their exteriors by turning them substantially as specified.

Second. The employment, in combination with the revolving core, of a turning cutter operating automatically, substantially as specified.

Third. The employment, in combination with the revolving core and turning cutter, of a female centre, operating substantially as described, for the purpose of securing the bullets on the core during the turning operation, and liberating them after such operation.

No. 20,608.—JAMES H. MURRILL, of Baltimore, Md., assignor to Himself, JAMES FLYNN, and PETER EMRICH, of said Baltimore.—*Improvement in Breech-Loading Cannon*.—Patent dated June 15, 1858.—The nature of this improvement consists in the construction of the breech portion of the gun, in which a slot or pocket G is formed for the reception of the charge, combined with devices by which the breech is more perfectly closed than heretofore, so that all escape of gas on firing is prevented, and fouling of the gun is obviated.

The inventor says: I *claim* the employment of the slot G, serving as a pocket for the reception of the charge in a proper position for entering the bore J, when arranged in combination with the packing α , operated in the manner and for the purposes as set forth.

I claim the employment of the screw B, in combination with the packing α , operating in the manner as described, for the purpose of closing the chamber and ramming the charge at the same operation, substantially as set forth.

No. 22,299.—EDWARD MARSHALL, of New York, N. Y.—*Improvement in Breech-Loading Cannon*.—Patent dated December 14, 1858.—

The nature of this invention consists in the arrangement of the chucks, the cams, and the breech-pin with the cannon, the same being constructed for the purpose of making a breech-loading cannon which may be reloaded without waiting for the recoil of the gun.

The inventor says: I *claim*, first, the employment of the adjustable chucks *c c*, constructed, arranged, and operated substantially in the manner and for the purpose set forth.

Second. I claim the recesses *E E*, made from the outside of the gun into the bore, for the purpose of containing and concealing the chucks *c c*, as is set forth.

Third. I claim the combination of the chucks *c c* with the pin *F*, constructed substantially in the manner described.

Fourth. I claim the arrangement of the pin *F*, the collar *G*, and the screw *H*, substantially in the manner and for the purpose specified.

Fifth. I claim the employment of projections *I*, for the purpose of securing and concealing the handles of the cam, as is fully set forth.

No. 22,325.—EDWARD S. WRIGHT and THEODORE P. GOULD, of Buffalo, N. Y.—*Improvement in Breech-Loading Cannon*.—Patent dated December 14, 1858.—The nature of this invention relates to making an opening, or mortise, transversely through the breech of a cannon, and in the construction and use of a sliding abutment in combination therewith. Also, in the construction and use of an expansive chamber, which contains the cartridge, and which expands when the cannon is discharged, and fills the bore so perfectly as to prevent "windage," and which also absorbs a greater portion of the heat, and has the effect to keep the cannon cool. And it also consists in the application of a wrought-iron band, shrunk around the breech of a cannon, when the same is combined with an opening, or mortise, and sliding abutment.

The inventors say: We *claim*, a mortise made through the breech of a cannon, in combination with the sliding abutment *D*, for the purposes and substantially as set forth.

Second. We claim the expansive chamber *H* or its equivalent, in combination with the cannon *A* and sliding abutment *D*, for the purposes and substantially as described.

Third. We claim the application of a wrought-iron band shrunk around the breech of a cannon, when the same is combined with a mortise and sliding abutment, as set forth.

No. 22,427.—JOHN W. HOLLENSBURY, of Alexandria, Va.—*Improvement in Breech-Loading Cannon*.—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* a breech-loading cannon formed in two parts and secured together by means of a frame, substantially as described.

Second. In combination with the two divisions of the cannon, as described, I claim the frame *D E F G*, fitting closely up against the breech *A*, and capable of being elevated or depressed; the whole constructed and operated substantially as and for the purpose set forth.

Third. In combination with the two divisions of the gun, I also

claim the band or circular wedge W, constructed and operated substantially as described.

No. 20,727.—GEORGE W. MORSE, of Baton Rouge, La.—*Improvement in Cartridges*.—Patent dated June 29, 1858.—This invention consists in the mode of providing the metallic case with a tige, secured in the interior of the same, and extending towards the rear of the cartridge, so as to serve as a means of exploding the percussion cap, when it is struck by the hammer of the gun. It also consists in the combination and arrangement of the cap with a perforated disk of some elastic material, whereby the contents of the cartridge case are secured against moisture, and the cap protected from accidental explosion.

The inventor says: I *claim* the tige secured in the cartridge case in either of the modes described, and all equivalents thereto for the purpose mentioned.

I also claim the combination and arrangement of the percussion cap and perforated disk as described, and for the purpose mentioned, and any and all equivalents thereto.

No. 20,214.—GEORGE W. MORSE, of Baton Rouge, La.—*Improved Cartridge Case*.—Patent dated May 11, 1858.—In the engravings A is the tubular case or body of the cartridge open at both ends, and with an annular shoulder *a a* extending around its head, B is an expansible head made of thin metal; it is so constructed as to fit into the rear end of the case A. In the case A is a furcated tige C, which consists of a wire bent and having two of its prongs *b b* soldered to the internal surface of the case A.

Claim.—The improved cartridge case, as constructed with a tige C, an annular shoulder *a*, and an expansible cartridge closer B, arranged within the body A of the cartridge, and made to slide longitudinally therein, and to operate in other respects substantially as above specified.

No. 21,253.—EDWIN GOMEZ and WILLIAM MILLS, of New York, N. Y.—*Improvement in Cartridge for Fire-Arms*.—Patent dated August 24, 1858.—This invention consists in a means for distributing the force of an explosive compound over a sufficient extent of surface to prevent the arm from exploding. It relates also to a means for removing the paper or case of a cartridge from the barrel of the fire-arm.

Claim.—The manner specified of forming cartridges for fire-arms and other purposes, by alternate layers of explosive material and paper or similar substance, for the purposes as specified; also the winding of string or equivalent material attaching the case to the base of the ball, for the purpose of removing said case and any refuse matter from the barrel, as described and shown.

No. 19,327.—FREDERICK D. NEWBURY, of Albany, New York, assignor to RICHARD VARICK DE WITT, jr., of said Albany.—*Improvement in Fire-Arms*.—Patent dated February 9, 1858.—The nature of

this invention will be understood by examining the claim and illustrations.

Claim.—The main-spring S, arranged, as described, to operate the hammer and trigger simultaneously, where the hammer is cocked by the trigger.

I further claim the ratchet wheel, lever, and pin in combination, arranged as described, so as to revolve the cylinder, and to hold it firmly in the act of firing.

I further claim the combination of the main spring, trigger, ratchet wheel, lever, and pin, for the purpose of cocking the piece, revolving the cylinder, holding it in place, and firing the piece by one movement of the finger upon the trigger, substantially as set forth in the specification.

No. 20,041.—CALVIN COX, of Coxville, North Carolina.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated April 27, 1858.—The nature of this invention consists in the arrangement of a blade or cutter in the rear part of the breech of the fire-arm, for use in combination with a bored sliding cartridge carrier and cartridge magazine. It is designed to render practicable the firing of common paper cartridges.

The inventor says: I do not claim the magazine, neither do I claim a sliding carrier, nor do I claim the combination of both.

But I *claim* the arrangement of a blade or cutter K in the rear part of the breech of the fire-arm, for use in combination with a bored sliding cartridge carrier and cartridge magazine, the whole constructed, arranged, and operating in the manner specified.

No. 20,073.—THOMAS LEE, of New York, N. Y.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated April 27, 1858.—The nature of this invention consists in a peculiar arrangement of devices for opening and closing the breech of the fire-arm; also in a manner of delivering pillets or capsules of detonating material as the hammer is discharged for firing the piece.

The inventor says: I *claim*, first, the breech piece *d* on its centre pin 1, in combination with the lever *e*, blocking piece *f*, and cam-shaped end 4, the whole constructed and acting substantially as specified.

Second. I claim the manner described of delivering the detonating pillets, and shutting off fire from the same by the use of the inclined ended rods 8 and 10 and shield *n*, constructed and operating substantially as specified.

No. 20,503.—GEORGE W. MORSE, of Baton Rouge, Louisiana.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated June 8, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: First. I *claim* the percussion rod in a movable breech-piece, in combination with the sliding bolt E, when so arranged that the lock in the act of firing shall both make fast the breech-piece and fire the charge.

Second. I claim the construction and use of the globular surface on the front end of the movable breech-piece, in combination with the end of the cylindrical cartridge case, for the purpose of more effectually preventing the escape of gas at the joint.

Third. I claim the construction and use of the lever *H o l*, when arranged substantially as described, for the purpose of retracting the carriage case.

No. 20,825.—GEORGE H. SOULE, of Jersey City, New Jersey.—*Improvement in Breech-Loading Fire-Arms*.—Patent dated July 6, 1858.—The nature of this invention consists in the mode of constructing the breech so as to insert the cartridge, and by means of the lever which acts on the plunger to force it tight on the bore.

The inventor says: I claim the peculiar construction and mode of operating the plunger *E* and securing it to its place while the gun is being discharged. Also the brace *C*, and the connexion of the breech piece *B*, and the lever *D*. Also the cams (*i*) (*i*), as applied to raising the brace, and any similar device by which the same results as are set forth are substantially obtained.

No. 20,776.—ENOCH BROOKS and GEORGE WALKER, of Philadelphia, Pennsylvania.—*Improvement in Breech-Loading Fire-Arm*.—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We do not claim the faucet-like construction and manner of applying the movable breech.

But we claim, first, the attachment of the hammer to an arm *I* having a curved back, to which the main-spring *k* is applied, to operate in the manner substantially as described.

Second. The arrangement of the cocking lever *J*, the sear *O*, and trigger *r*, as applied in combination with the main-spring *R* and hammer arm *I*, substantially as set forth.

Third. Combining the cocking lever *J* with the breech by means of a slider *S*, rod *v*, and wrist pin *u*, applied as described, to cock the lock by the movement given to the breech, to permit the loading.

No. 20,954.—JAMES H. MERRILL, of Baltimore, Maryland.—*Improvement in Breech-Loading Fire-Arm*.—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Converting what is known as the "Jenks' carbine" from a loose powder and ball loader to a cartridge loader, viz: by plugging up the vertical opening through which that gun was loaded, cutting away in rear of the barrel *B*, so as to load at the rear end of the bore, and allowing the lever *A*, toggle, and piston to come far enough back to admit a cartridge to be dropped in behind the bore, and then run up into the chamber, with a groove and pin to guide the toggle and piston, as set forth.

No. 21,523.—E. T. STARR, of New York, N. Y.—*Improvement in Fire-Arms*.—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Opening and closing the rear end of the barrel, to insert and enclose the charge by a plate *a* turning on an axis below, and in the plane of the rear face of the barrel, substantially as specified, when this is connected and combined with a wedge *h*, or its equivalent, operated by a lever below, substantially as specified, so that in the act of drawing out the wedge to the breech plate *c*, the rear end of the barrel shall be opened to receive a charge, and by the act of lifting or forcing up the wedge, the charge shall be enclosed, and the breech piece secured, while at the same time all the injurious effects of expansion and contraction and of fouling are avoided, as set forth.

No. 21,802.—JOHN P. SCHENKL, of Worcester, Massachusetts, assignor to Himself and EDWARD A. DANA, of Boston, Massachusetts.—*Improvement in Breech-Loading Fire-Arm.*—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, in combination with the bore or chamber of a fire-arm, or piece of ordnance, a secondary and smaller fire-arm or barrel arranged within it, substantially in manner and to operate as described.

I do not claim a conical tige, as used in the “carabine à tige,” and for the purpose of spreading a ball.

But I claim the conical or tapering spreader, or end of the tige, in connexion or combination with the chamber within the tige, and to operate in the manner as specified.

I also claim the improvement of the chambered tige or secondary barrel, as made with a cutting front end, and particularly as made with a serrated end, as specified.

I also claim the arrangement of the touch-hole of the hollow tige in the breech screw thereof, in such manner that when the breech screw is in place in the main barrel, not only shall its touch-hole communicate with that of the main barrel, but the breech screw shall intercept all communication of the touch-hole of the main barrel with the bore or chamber of such main barrel, except through the touch-hole and bore of the secondary barrel.

I also claim the improved combination of tige, that is with the base of the spreader made of greater diameter than the neck or part of the tige which is immediately below it, the same being for the purpose as set forth.

No. 22,094.—JOHN CLEVES SYMMES, of Watertown Arsenal, Massachusetts.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated November 16, 1858.—The nature of this invention consists in making the surfaces of the breech or barrel, where they lie together, of such shape that the effort of the gas under compression shall be, in general, not to push these two surfaces apart so much as to push the inner against the outer, and thus close together against the passage of gas between them.

Claim.—The elastic flexible lip, substantially as described, however it may be applied to checking the escape of gas from the breech of breech-loading guns.

No. 22,348.—E. CLAUDE, of New York, N. Y.—*Improvement in Breech-Loading Revolving Fire-Arm*.—Patent dated December 21, 1858.—The nature of this invention will be understood by an examination of the claim and engravings.

Claim.—Making the arm U, between the barrel and exterior shaft, the bearing for the cylinder by a shaft on the forward end of the cylinder, passing through and secured to the arm, substantially as described, when the said parts are combined with breech-piece and stock, so that the cylinder is rotated and stopped, and the discharge effected, substantially as set forth.

No. 20,129.—DANIEL G. ROLLIN, of New York, N. Y., assignor to GEORGE G. MARTIN, of Brooklyn, N. Y.—*Improvement in Continuous Priming for Fire-Arms*.—Patent dated April 27, 1858.—The inventor says: I form the compound when properly mixed and in a plastic state into short sticks, an inch or two, more or less, and about the sixteenth of an inch in diameter, the figure being cylindrical, prismatic, or other convenient form, as seen at *a b c*. This priming is used for fire-arms by cutting off a small portion thereof, and exploding at the vent of the arm by any convenient apparatus for the purpose.

Claim.—The continuous priming, formed as set forth, to be combined with and operating in fire-arms by means of an independent cut-off as specified.

No. 19,213.—DAVID W. SMITH, of Boston, Mass.—*Improvement in Nipple-Guard of Fire-Arms*.—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim applying a cover-guard to the percussion nipple.

Nor do I claim applying the cover-guard directly to the lock so as to turn on a pin or fulcrum projecting therefrom, and operating and throwing up the said guard by a lever separate from it, and actuated or moved by a cam on the lower part of the hammer or cock.

But I *claim* applying the cover-guard to the lock in manner, and operating it by means, substantially as described, that is to say, by joining the cover-guard directly to the lever *e*, and operating the said guard by means of the tongue *k* and the lever, in connexion with the arm *d* or its equivalent, extending from the cock or hammer, substantially as described.

No. 19,387.—CHARLES C. TERREL, of Shullsburgh, Wisconsin.—*Improvement in Repeating Fire-Arms*.—Patent dated February 16, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the invention of a double chambered slide, when each chamber is furnished with a solid or permanent breech.

But I *claim*, first, the employment of a double sliding charge-holder C, having openings *b b*¹ right through it, in combination with a breech-screw D arranged opposite the bore of the barrel, so that the said breech-screw makes a complete chamber of either opening *b* or *b*¹, which is in line with the barrel, and at the same time makes a

tight joint between the chamber and barrel, while the opening is in condition to receive a cartridge through its rear from a magazine in the stock of the gun, and easily detached.

Second. In combination with the use of two magazines, arranged as described, I claim combining the double sliding charge-holder C and the hammer, with the lever E under the stock, by means of the bevel gearing E¹ F, and the eccentric pin d, and wrist pin w, substantially as described, so that by moving the lever in either direction the charge-holder has imparted to it the necessary movement to receive a new cartridge from one of the magazines, and present another cartridge in line with the barrel, and the hammer is cocked, thus enabling the gun to be fired twice with one movement of the lever back and forth.

Third. Combining the hammer with the breech screw so that the cocking and letting off of the former will draw back and drive up the latter by means of the fork 15, 16, the slide Q with its finger 11, and the spiral groove 12 in the head of the breech-screw, the whole operating substantially as described.

No. 19,553.—ALEXES C. FAIVRE, of Meadville, Pa.—*Improvement in Repeating Fire-Arm*.—Patent dated March 9, 1858.—In fig. 1, A represents the stock of the gun, B is the barrel, and C is the powder magazine. D is a box in the stock that contains the ball, in the bottom of the box is a spiral spring like a watch spring, one end of which is attached to the wood of the gun-stock under the bottom of the box, and the other end is attached to an axle n. This axle is made square so that it can be turned with a key similar to a watch key, so as to wind up the spring. On the top of this spring is the box which holds the balls. This box has a spiral partition coiled around in it so as to form a spiral tube, and to connect with the tube E E, through which the balls pass to the ball chamber F.

The inventor says: I claim, first, the screw valve or cut-off J, in combination with the lever i and cover 4, constructed as described.

Second. I claim the concave 7, with the ball-chamber F and the powder-chamber T, in combination with the lever H and ramrod z, constructed as described.

Third. I claim the cylinder 6, constructed as described, with the charge chamber and ball tube in combination with the box D and the concave 7, all constructed as described, or any other construction substantially the same, and which will produce the same results.

No. 21,149.—FRANKLIN B. PRINDLE, of New Haven, Conn.—*Improvement in Repeating Fire-Arm*.—Patent dated August 10, 1858.—The claim and engravings explain the nature of the invention.

The inventor says: I am aware that many pistols, &c., are cocked by pulling the trigger, and that the charge has been carried to the rear end of the barrel by pulling a separate trigger, and that a tube has been used to contain the charges, and a spring to force them to the rear end of the tube.

And that pistols, &c., have been charged and discharged by the same trigger, as is seen in the patent issued to Lewis Jennings, December 25, 1849; and that two charge tubes have been used under the

barrel, as is seen in the application of Frederick Newbury, rejected and withdrawn, February, 1856. I therefore do not claim either of these as such as my invention.

But I do *claim* the use of two charge tubes B C, (one of which to contain the balls, and the other the cartridges,) in combination with the two chargers and ramrod, when constructed, arranged, and made to receive the charge and deposit it in the barrel simply by pulling the trigger, substantially as set forth.

Second. I claim the combination of the hammer G and sectors *n* with the chargers and ramrod (so that I may charge, cock, and fire by simply pulling the trigger L,) when the whole is constructed, arranged, and made to operate substantially as described.

No. 19,739.—FREDERICK D. NEWBURY, of Albany, N. Y., assignor to R. V. DE WITT, jr., of said Albany.—*Improvement in Revolving Fire-Arm.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention. A full description would require too much space to be given here.

The inventor says: I *claim* the lever I, formed and fitted as described, for the purpose of cocking the hammer, holding the same when it has been cocked by hand, rotating the cylinder, and holding the cylinder firmly in the act of firing.

I also claim the hammer, with its pin *b*, in combination with lever I, for cocking by hand. The combination of hammer, lever, ratchet wheel, and trigger, arranged substantially as and for the purposes set forth.

No. 19,961.—ROLLIN WHITE, of Hartford, Conn.—*Improvement in Repeating Fire-Arms.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not here intend to claim extending the chambers right through the rear of the rotating cylinder, as that forms part of the subject matter of letters patent of the United States obtained by me, dated April 3, 1855.

But I *claim*, first, the enlargement of the chambers in the rotating cylinder, or in a position thereof in a rearward direction, when such cylinder or portion thereof is detached from the breech and thereby rendered capable, by such enlargement, of being driven forward, substantially as described, into contact with the stationary barrel, for the purpose of preventing windage.

Second. Making the detached breech of the rotating chambered cylinder rotate with the cylinder, substantially as and for the purpose set forth.

Third. Constructing the breech of the revolving cylinder with a recess *i* in its face at the back of each chamber, and a notch *j* in its periphery, meeting the said recess substantially as described, so that the hammer H, swinging in the manner most common to fire-arms, may strike into the chambers and cut or tear, and thereby explode the cartridge.

Fourth. The fitting of the hammer to close that portion of the breech which is left open by the notches *j j*.

No. 20,160.—BENJAMIN F. JOSLYN, of Worcester, Mass.—*Improvement in Revolving Fire-Arm*.—Patent dated May 4, 1858.—The nature of this invention consists in combining and arranging a series of parts in such relation to the hammer shaft as to enable it to operate upon the same in such a manner as to not only revolve the required distance by the act of cocking the hammer, but also secure them firmly while in communication with the stationary barrel; and also in making the ramrod susceptible of being increased or diminished in length, and operating it by a duplex motion.

Claim.—Revolving the cylinder B by means of a slotted spring clutch cylinder D, operated by a lever G, as described.

No. 20,144.—SAMUEL COLT, of Hartford, Conn.—*Improvement in Revolving Fire-Arm*.—Patent dated May 4, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—In combination with a central pin which is inserted from behind, to admit of readily taking out and replacing the rotating breech, and which is feathered or otherwise fitted to the central bore of the rotating breech so as to turn therewith, and which passes entirely through the central bore of the said rotating breech, and into the framing in front for support, the making of the rear end or head of the said central pins with ratchet teeth, or the equivalent thereof, to be acted upon by the mechanism for turning and holding the rotating breech, all substantially as and for the purpose described.

No. 20,496.—MOSES KINSEY, of Newark, N. J.—*Improvement in Revolving Fire-Arm*.—Patent dated June 8, 1858.—The dog G which is attached to the hammer is furnished with an additional tooth K, so arranged relatively to the tooth which rotates the chambered cylinder C, and to the ratchet wheel D of the cylinder, as to act as a stop in combination with one of the teeth of the cylinder, to prevent the latter from being rotated beyond the proper distance, the teeth of the ratchet wheel being properly formed for this purpose.

Claim.—Furnishing the dog G with the additional tooth K, arranged to operate in combination with square or equivalently formed bottom parts of the backs of the teeth of the ratchet wheel D, in the manner and for the purpose described.

No. 20,607.—FRANCIS H. HARRINGTON, of Springfield, Massachusetts, assignor to HORACE SMITH and DANIEL B. WESSON.—*Improvement in Revolving Fire-Arm*.—Patent dated June 15, 1858.—In cocking the pistol the jointed thumb-piece C moves first, and, before raising the hammer, disengages the catch of the stop bolt D and allows the cylinder to revolve, so that as the hammer is drawn back to its position for firing, the cylinder, by the action of the lever F, is carried one step forward in its circle, and another chamber is brought in the line of the barrel.

Claim.—The combination of the stop bolt D and the jointed thumb-piece C of the hammer with the revolving cylinder, substantially in the manner and for the purpose specified.

No. 20,765.—FREDERICK D. NEWBURY, of Albany, N. Y., assignor to RICHARD VARICK DEWITT, jr., of said Albany.—*Improvement in Revolving Fire-Arm*.—Patent dated June 29, 1858.—The trigger *T* is pivoted to the frame at *e* near its top, and has projecting from it forwards a limb *a*, which is fitted to conform to the spaces between the teeth of the wheel *r*. The limb *x* operates the hammer *H* by means of a pin *b* inserted into its side above its axis, the upper edge of the limb lying under the pin before the trigger is drawn.

The inventor says: I *claim*, first, the trigger *T*, formed, fitted and operating as described, for the purpose of cocking the hammer, revolving the cylinder, holding the cylinder in the act of firing, and firing the piece.

Second. The combination of hammer, its pin *b*, the trigger, and the ratchet wheel, formed and arranged substantially as and for the purposes set forth in this specification.

No. 21,054.—EDWARD A. RAYMOND and CHARLES ROBITAILE, of Brooklyn, N. Y., assignors to Themselves, JOHN B. RICHARDS, and THOMAS K. AUSTIN, of Brooklyn aforesaid.—*Improvement in Revolving Fire-Arm*.—Patent dated July 27, 1858.—This is an improvement on the invention of C. F. Pettengill, patented July 22, 1856, and relates to a manner of working the main-spring and lever so as to perform all the functions required of them; also, to a manner of causing the end of the lever itself to lock and hold the chambers with the proper one exactly on the line of the barrel, thereby dispensing with the hinged locking-pin of Pettengill.

The inventors say: We do not claim any part of the invention of Pettengill secured by patent.

But we *claim*, first, the manner specified of controlling the motions of the lever *h* and spring *i*, by means of the spring *m*, roller *q*, and incline 10, as and for the purposes described and shown.

Second. We claim locking the chambers *d* by the end of the lever *h*, taking the triangular recesses *S*, in the rear of the chambers, as said lever completes its upward movement, for the purpose as specified.

No. 21,215.—JOSEPH RIDER, of Newark, Ohio.—*Improvement in Revolving Fire-Arm*.—Patent dated August 17, 1858.—This invention consists in a certain mode of combining the several parts of the lock whereby a single spring is made to serve, in a very effective manner, the purposes of a main-spring and trigger-spring, and for keeping in its operative position the dog through which the rotation of the cylinder is effected by the cocking of the hammer, and also for operating the stop which locks the cylinder while the hammer is cocked.

The inventor says: I *claim*, first, combining the springs with the hammer, the rotating dog *b*, and the peculiarly constructed notched trigger, by means of the reacher *f*, constructed, applied, and operating substantially as described, to make the single spring serve the purposes of main-spring, dog-spring, and trigger-spring.

Second. The combination of the stop lever *l m* with the notched trigger and the reacher, by which the said stop is brought by the

single spring S into operation on the cylinder as the cocking takes place.

No. 21,188.—W. H. ELLIOT, of Plattsburgh, N. Y.—*Improvement in Revolving Fire-Arm.*—Patent dated August 17, 1858.—The object of this invention is to produce a very much more compact, safe, and convenient repeating pocket pistol than has heretofore been made. The claim and engravings show the nature of the invention.

The inventor says: I *claim*, first, extending the frame of the breech forward of the supporting point of the cutter pin, and placing in the part so extended the cock *c* and trigger *d*, when these devices are arranged in relation to the several revolving barrels as specified.

Second. The arrangement of lever *o* and trigger *d*, in advance of dog *p* and ratchet *y*, by which the barrels are revolved, as and for the purpose specified.

Third. The method of operating the cock *c* by means of fly *g*, the same being hinged at or near the centre of motion of the cock, and moving independently of the cock in one direction but not in the other, as and for the purpose specified.

Fourth. The employment of wings *a*¹, when so constructed as to serve the double purpose of bracing the support of the centre pin, and of protecting the hands from injury by the discharge of gases and pieces of caps from the nipples, and being a portion of the frame of the breech, as set forth.

No. 21,400.—ETHAN ALLEN, of Worcester, Mass.—*Improvement in Revolving Fire-Arm.*—Patent dated September 7, 1858.—That part of the pin C that projects in front of the cylinder A is formed of such a shape as to present a projecting angle O toward the junction of the barrel B and cylinder, so that the gas or smoke that is directed down against the pin will be divided by the angle O and deflected off laterally instead of back and front, and thus be prevented from being forced into the hole around the pin C.

The inventor says: I do not mean to be understood as confining myself to any particular angle on that part of the pin, or to the precise form of the guards given.

But, first, I *claim* constructing that part of the pin C that projects in front of the cylinder so as to produce a projecting angle towards the junction of the barrel and chamber that is being discharged, for the purpose set forth.

Second. I claim the guards D and E when constructed and operating as described.

No. 21,478.—FORDYCE BEALS, of New Haven, Conn.—*Improvement in Revolving Fire-Arm.*—Patent dated September 14, 1858.—This invention consists in so constructing, applying, and arranging the centre pin on which the cylinder rotates and the lever which operates the rammer, that the said pin is secured in place by a shoulder provided for the purpose on said lever, when said lever is brought to a position close under the barrel, and that said pin can be withdrawn to allow the cylinder to be taken out when the lever is moved down

to a position far enough from the barrel to let the rammer interfere with the cylinder.

Claim.—Constructing, applying, and arranging the centre pin F and the rammer lever H substantially as described, so that the former is locked in place by the latter, when the latter is close to the barrel, and that the former is permitted to be withdrawn by bringing the latter to a position in which the rammer will not interfere with the cylinder.

No. 21,623.—WILLIAM PALMER, of New York, N. Y.—*Improvement in Revolving Fire-Arm.*—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention,

Claim.—The combination of the trigger *g*, hammer *e*, sere or hair trigger *k*, and slotted plate *h*, or its equivalent, substantially as specified, whereby the hammer is cocked by the pull of the trigger *g*, and then disconnected therefrom, so that the strain is transferred from the trigger *g* to the hair trigger *k*, and then the latter is disconnected by the further pull of the trigger *g*, as set forth.

No. 21,730.—THOMAS K. AUSTIN, of New York, N. Y.—*Improvement in Revolving Fire-Arm.*—Patent dated October 12, 1858.—The nature of this invention consists, first, in a manner of applying the main-spring on or as a part of the trigger. Second, in an arrangement of sliding centre pin, latch, and toggle joint, whereby the chambers are successively pressed to and withdrawn from the rear end of the barrel. Third, in the arrangement of a double-acting return spring to cock the hammer and restore the parts to their previous position.

The inventor says: I *claim*, first, the main-spring J attached to or formed on the trigger A, substantially as specified, whereby the pull on said trigger strains the main-spring, as set forth.

Second. I claim the sliding centre pin I, shield H, pin H¹, and toggle joints G G¹, when combined with the latch o¹ for disconnecting the pin I, as described and shown.

Third. I claim the double acting spring N, fitted and acting as specified, to return the sere L, and trigger A, and parts attached, to their quiescent position, as set forth.

No. 22,005.—ETHAN ALLEN, of Worcester, Mass.—*Improvement in Revolving Fire-Arms.*—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, forming the stud or pin to support the tumbler and hammer solid with the case or frame, when the hammer is placed outside the case and constructed and operating substantially as described.

Second. The cam surfaces of the tumbler and piece L or their equivalents, to rotate the cylinder by means of the piece M, substantially in the manner and for the purposes set forth.

No. 22,412.—JOHN W. COCHRAN, of New York, N. Y.—*Improvement in Revolving Fire-Arm.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the hinged or jointed thumb-piece of the hammer or cock, constructed and arranged and having the functions substantially as set forth.

Second. I claim the worm-wheels upon the cylinder shaft and the tumbler shaft or hammer shaft, combined and operated as and for the purposes described.

Third. I claim the means, substantially as set forth, for allowing the cylinder to be rotated within its frame independent of the shaft of the hammer or tumbler, and also allowing of the detaching of the cylinder and its shaft from the frame and from the means for rotation.

No. 19,868.—HENRY S. NORTH, of Middletown, Connecticut.—*Improvement in Removable Rammer of Revolving Fire-Arms*.—Patent dated April 6, 1858.—This invention relates to that description of revolver whose chambered cylinder rotates on an axis parallel with the bore of the barrel. It consists in a new method of applying a rammer to ram the charges into the chamber of the cylinder.

Claim.—Having the rack *d* and passage or chamber *b* made in the head of the base pin B, substantially as described, thus rendering the rammer independent of every other part, and facilitating its removal and construction as set forth.

No. 19,328.—JOHN F. THOMAS, of Ilion, New York, assignor to Himself and SAMUEL REMINGTON, of said Ilion.—*Improvement in Cane Gun*.—Patent dated February 9, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, connecting the case A and barrel B by means of the hammer and its rod F, and the trigger-block and trigger, as set forth.

I also claim, in combination with the case and barrel, the catch-spring *e*, for holding the case and hammer when the arm is cocked, as set forth.

I also claim the continuous grooves or shoulder around the end of the rod F, so that the said rod may turn in its bearings without preventing the sere from catching it, whenever drawn back past it, as described.

I also claim the combination of the trigger-block G, trigger I, with its sere 3, and springs 4, and the hammer and its rod, substantially in the manner and for the purpose set forth.

No. 20,597.—GERSHOM J. VAN BRUNT, of Dedham, Massachusetts.—*Improvement in Gun Carriage*.—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim a friction apparatus and a tapering bed or tongue applied to a gun-carriage, so as to arrest the rearward motion of the gun and carriage after a discharge of the piece, although I believe myself to have been the original and first inventor of the same.

But I *claim* the application of friction apparatus, substantially as described, to the gun-carriage and tongue in such manner that, when the carriage is being retracted or under recoil, it shall be elevated in

a manner to raise its wheels off the deck or floor under it, and cause the whole weight of the gun and carriage, or that of the latter, to be borne by the tongue or friction apparatus, and in a manner to increase the friction and pressure of the friction bearers or the tongue on their supporting surface, substantially as described.

I also claim the arrangement of the shaft E, the friction bearers C C, and their eccentrics D D and straps E¹ E¹, or equivalents, with reference to the gun-carriage A and the tongue B thereof.

I also claim the combination of the tripper H with the tongue and friction apparatus, the same being for the purpose and to operate as specified.

I also claim the combination of the adjustable spring-stop K with the gun-carriage A and the lever F of the friction apparatus.

No. 22,377.—DAVID D. PORTER, of United States Navy.—*Improvement in Quoins for Gun Carriages*.—Patent dated December 21, 1858.—The mechanism consisting of the wedge F and bed E, and termed a quoin and bed, is to be used on a gun carriage, and for supporting the breech of a cannon and imparting to it such an elevation as circumstances may require.

The inventor says: I *claim* the combination and arrangement of the degree rack or racks, the axle thereof, the T-bolt, and its groove, with the bed and wedge, substantially as and for the purpose as described.

I do not claim the mere use of raised projections for indicating numbers by the touch of the figures, as I am aware that such is not new.

But I claim the combination and arrangement of the tangible scale and axle with the degree rack and the wedge, so that by the application of the finger to both scale and axle at one and the same time, and during the night or otherwise, the proper position of the wedge may be determined for any desirable elevation of the gun.

No. 21,109.—C. B. THAYER, of Boston, Mass., assignor to Himself and CHARLES ROBINSON, of Cambridgeport, Mass.—*Improvement in Centrifugal Gun*.—Patent dated August 3, 1858.—The principal parts of this new machine for throwing projectiles by centrifugal force are a strong ring or short cylinder A mounted on a suitable base B, and a revolving thrower c mounted on a shaft G, by the rapid revolutions and consequently swift motions of which the required velocity is imparted to the projectiles.

The inventor says: I *claim* the spiral groove d, arranged substantially as specified.

In combination with the spiral groove d, I also claim the space g and heel h at the extremity of each arm or aperture of the thrower, arranged and operating substantially in the manner and for the purpose set forth.

No. 20,757.—ELIAS BREY, of Pennsborough, Pa., assignor to Himself and J. S. SWARTLEY, of said Pennsborough.—*Improvement in Double-Acting Gun Lock*.—Patent dated June 29, 1858.—The hammer H is attached to the head of the tumbler T by a pin a, about which it is capable of moving. The amplitude of this movement is such that the

hammer head shall, in each of its extreme positions, be over the vent tubes of the barrels. This is determined by the length of a pin C passing through tongue *b* of the hammer, and piece C connecting the hammer with main-spring S.

Claim.—The swivel hammer H in combination with the centre swell pin C, or its equivalent, constructed, arranged, and operating substantially as and for the purpose set forth.

No. 19,121.—HENRY BARNES, of Wilson, N. C.—*Improvement in Lock of Double-Barreled Guns.*—Patent dated January 19, 1858.—The nature of this invention consists in placing upon the ordinary trigger-plate of a gun lock but one trigger on a double-barrelled gun, which, when pulled, will fire one or both barrels as may be desired.

Claim.—The placing a projection upon the trigger-plate, a corresponding one on the trigger, and fly-lever with a projection of a similar kind, and a concave groove, substantially arranged so as to form a permanent hinge, for the uses and purposes set forth in the specification.

No. 19,068.—WILLIAM BURGHART, of Lawrence, Mass.—*Improvement in Needle Guns.*—Patent dated January 12, 1858.—The nature of this invention is described by the claim and engravings.

The inventor says: I am aware that darting needles with coiled springs, casings, and carriers have been used before for the purpose of loading and firing of guns.

I am also aware that breech-loading guns have been constructed, in which the drawing back and the elevating of the chambers is effected by means of lever and cam attachment. I therefore do not claim either of these devices as my invention.

Neither do I claim the operation of the spring E on the chamber, nor the construction of the principal casing, nor the construction of the darting needle.

But I *claim*, first, elevating the chamber, drawing back the darting needle, and pressing back the coiled spring simultaneously by one and the same movement of the lever, as described.

Second. The chain *g* with its pin N, and also their combination with the cam, pivot, and carrier, as described.

Third. Connecting the tubular casing P with the chamber D, as described.

Fourth. The peculiar construction of the carrier in combination with the chain, the trigger, and the coiled spring casing, as described.

No. 19,086.—ALBERT GERNUNDER, of Springfield, Mass.—*Improvement in Spring Guns.*—Patent dated January 12, 1858.—This invention consists in attaching to the muzzle of a gun or pistol barrel a cylindrical cap fitting upon the barrel like the ring of a bayonet. To the outer extremity of this cylinder a strong spiral wire is attached in the manner indicated at *a*, the end being sharpened to a point, so that it may penetrate and be screwed into the meat or other bait by which the game is to be attracted. The barrel is furnished with a cone, on which the percussion cap is placed.

Claim.—First. The cylindrical cap, with its spiral wire for attaching the bait, and with its parts and adjustments substantially as described and shown.

Second. The use of the cylindrical cap, in combination with the other parts of the gun, for the purpose of sustaining the bait, and of discharging the gun by means of the discharging rod and lever, substantially as described and as shown.

No. 19,674.—ROBERT R. BECKWITH, of New York, N. Y.—*Improvement in Walking-Stick Gun.*—Patent dated March 23, 1858.—To charge the barrel, the tube D is drawn off, and the charge and ball inserted at the muzzle of the barrel, after which the tube D is replaced. The sleeve H is slid forward to uncover the opening *e* in the tube A, and the cap is introduced through the opening, after which the sleeve is drawn back. The sleeve F is drawn back by hand till the hole *j* arrives over the catch pin *g*, which is forced by the spring *i* through the hole *j*, and thus cocks the hammer and keeps it cocked till the pin is withdrawn.

Claim.—The combination of the hammer E, pin C, sleeve F, and the locking lever I, as and for the purposes set forth.

No. 21,773.—LORENZO B. OLNSTEAD, of Binghamton, New York.—*Improvement in Compound Shell for Ordnance.*—Patent dated October 12, 1858.—This invention consists in the employment of a shell composed of an inner cast-iron bursting shell, which serves also as a nucleus or core upon which is constructed a second shell or outer coating in sections.

These sections form, also, a series of independent chambers to be charged with explosive material and projectiles.

Claim.—Surrounding an explosive shell with a number of chambered segments, each charged with cartridges or other projectiles, and discharged by fuses properly connected with the inner exploding shell, the whole forming a second or outer spherical shell arranged in the manner set forth.

No. 20,229.—GREY UTLEY, of Louisburg, North Carolina.—*Improvement in Repeating Ordnance.*—Patent dated May 11, 1858.—The nature of this invention will be understood by the claim and engravings.

Claim.—The shaft S, with cams D and *f*, as described, in combination with the reciprocating hammer *h*, the laterally moving toothed wheel *m*, and the detent *g*¹, said parts being connected and operating with a many chambered breech piece having a rectilinear movement, substantially as and for the purposes before set forth.

No. 19,342.—J. H. BRECKENRIDGE, of Meriden, Connecticut.—*Improvement in Powder Flasks.*—Patent dated February 16, 1858.—The cut-off A in the engravings is composed of metal, and contains a chamber B large enough to hold the charge of powder; the chamber is divided into three divisions by means of the partitions *e e*; this chambered cut-off slides between two plates D and E; D separates

it from the flask F; and E has secured to it a tube G, through which the powder is poured into the fire-arm.

Claim.—The combination of a chambered cut-off, constructed and operating substantially as set forth, with a receptacle or flask and a delivery tube; the whole constituting an apparatus for charging fire-arms.

No. 20,315.—CHARLES W. ALEXANDER, of Moorefield, Vermont.—*Improvement in Breech-Loading Rifle.*—Patent dated May 25, 1858.—The nature of this invention consists in providing a rifled cylinder E containing load and cap, and which is forced laterally to a point corresponding exactly with the rifled bore of the barrel, by being introduced at the front of a revolving chamber D, in which chamber it is kept from turning by means of the point of a screw fitting exactly into a notch in the hinder end of the cylinder E, and to which revolving chamber is attached a lever or handle by which it is forced to revolve, and is kept in its place by means of a spring H.

Claim.—The replaceable rifled cylinder, with its dovetail for cap, and notch for holding it in its place, in combination with the revolving chamber that bears it and holds it to its place.

No. 21,924.—LUCIUS GIBBS, of New York, N. Y., assignor to THE GIBBS ARMS COMPANY, of said New York.—*Improvement in Patching Balls for Breech-Loading Rifles.*—Patent dated October 26, 1858.—This invention has for its object the employment of a patch for the "picket" or conical ball, now generally preferred, whereby a patched ball may be used with breech-loading arms to as much advantage as is realized by the ordinary mode of patching for muzzle-loading guns, and it consists in a method of so constructing the patch and the ball, and affixing the said patch upon the ball, that the patch will not cover any portion of the ball, except that part which would otherwise be in contact with the bore.

Claim.—The method of patching a rifle ball, substantially as is set forth.

No. 19,505.—WILLIAM H. HUBBELL, of Philadelphia, Pa.—*Improvement in Eccentric Explosive Shells.*—Patent dated March 2, 1858.—The nature of this invention consists in the manner of arranging the metal of the shell so as to obtain the combined results of reinforcing the maximum point of resistance to the action of the cartridge, making the shell light and very strong, maintaining in proportion to the strength and weight the largest amount of powder space, diminishing the weight of the shell in proportion to its strength, diminishing thereby the strain on the gun in discharging the shell, and causing it to fly with a higher velocity than a heavier shell of the same strength, describe a less curvature in its flight, and be therefore more liable to strike and not overshoot an enemy's vessel in an action.

Claim.—The combination of the flat-based segment or bridge piece behind, the flat-based reinforce around the fuze-hole, and the thinner sides or walls of the shell, with the external surface of the shell smooth and spherical, as described.

No. 20,250.—ALFRED BOOTH, of New York, N. Y.—*Improvement in Making Shot*.—Patent dated May 18, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Filling a chamber with spray and dropping melted lead through it to facilitate the cooling of the shot, constructed and arranged substantially as set forth.

XX.—SURGICAL INSTRUMENTS.

No. 22,293.—N. JENSEN, of Washington, District of Columbia.—*Improvement in Bandages*.—Patent dated December 14, 1858.—This invention consists of a steel wire spring *a*, a bag *b* which contains raw cotton or a sponge *y*, and a waistband *c*, to which are attached three elastic straps *d e f*, whose other ends are fastened to the steel spring *a*. The bag *b* is fitted to a second wire spring *g*, which is hinged to the wire spring *a* at *x x*, and has at its rear end a little hook *h*, which latter, when placed over the rear portion of spring *a*, will keep the two springs in close contact, and thus hold the bag up the same as if it were fitted to the main spring *a*.

Claim.—Forming instruments of two wire springs *a* and *g*, the spring *g*, which supports the bag, being hinged and hooked to the other spring *a*, for the purposes as set forth.

No. 22,298.—JOSEPH MANSFIELD, of Jefferson, Wisconsin.—*Improvement in Shower Baths*.—Patent dated December 14, 1858.—A represents an upright sheet metal cylindrical chamber, which is divided by horizontal partitions *a* into four compartments or chambers B C D E. The chambers B C E are about of equal dimensions, and the upper one B is open at the top. The chambers B C are connected at their lower ends by a tube F which is provided with a cock *b*, and the chambers B E are connected at their lower ends with a tube G which is provided with a cock *c*.

The chambers C D are connected by an air tube H, the lower end of which communicates with the upper part of E, and the upper part passes vertically up into the chamber C within a short distance of its top. I is a pipe, one end of which passes into the chamber C and nearly reaches its bottom; the opposite end projects out from the cylinder A, and has a horizontal rose J attached to it.

Claim.—An improved article of manufacture, a shower bath having chambers B C, tubes F G H I, and stop-cocks D C, substantially as shown and described.

No. 21,138.—FREDERICK KRAEMER, of Brooklyn, New York.—*Improvement in Bathing Apparatus*.—Patent dated August 10, 1858.—The object of this invention is to obtain, within reasonable dimensions,

a bathing device whereby a complete bath may be taken or the body completely immersed equally as well as in large bathing tubs or houses. The invention is designed to be used in private houses, and to be a portable affair that may be moved from place to place with facility, and fitted up as occasion may require.

Claim.—The tub A, constructed of two semi-cylindrical portions *a b*, connected together as shown, in connexion with the steps *c*, supply cocks *h h*, and discharge valves B; the whole forming a new and improved article or apparatus for the purpose specified.

No. 22,080.—THOMAS LEWIS, of Malden, Massachusetts.—*Improvement in Breast Pipes*.—Patent dated November 16, 1858.—This invention consists in so combining a nipple shell of the ordinary construction with a breast pipe that the two shall constitute but one instrument, and shall take up the room usually occupied by the ordinary nipple shell, at the same time it shall always be ready to be used as a breast pipe or pump.

Claim.—The described combined nipple shell and breast pipe, constructed by the attachment of a neck and pipe to an ordinary nipple shell, as set forth, for the purpose described.

No. 21,790.—CORYDON WHEAT, of Geneva, New York.—*Improvement in Corn Eradicators*.—Patent dated October 12, 1858.—This device is simply the combination of an elastic band with the pad or cushion, so as to enable the wearer to readily slip it on to the spot required, where it will be steadily and firmly held, can be easily and speedily removed and replaced, and is always ready for use without further adjustment.

Claim.—The corn eradicator constructed as described, as an article of manufacture, substantially in the manner and for the purposes set forth.

No. 19,858.—MORRIS LEVETT, of New York, N. Y.—*Improvement in Atmospheric Pressure Dental Plates*.—Patent dated April 6, 1858.—*A* is the plate, to which the artificial teeth *b* are to be attached in any of the usual modes. Said plate is to be shaped so as to fit the mouth of the person wearing the same. Through this plate elliptical openings *l l* are made, to the under side of which cap plates *2 2* are attached, so as to form the desired number of cavities around the ridge of the gums. The plate containing the artificial teeth is caused to adhere to the gums by drawing the air out of the cavities by producing a partial vacuum in the mouth by the tongue.

The inventor says: I do not claim retaining the plates of artificial teeth in place by means of atmospheric pressure, as the same has been applied both to the roof of the mouth and also at the alveolar ridge.

But I *claim* the manner herein described of attaching the plates of artificial teeth by means of separate cells or cavities acting upon the alveolar ridge, substantially in the manner and for the purposes specified.

No. 21,562.—ALEXANDER M. HOLMES, of Morrisville, New York.—*Improvement in Dentists' Chairs*.—Patent dated September 21, 1858.—This invention consists in having the chair provided with an adjustable

foot-rest, an adjustable head-rest, and supplemental back, the whole being arranged so that the body of the chair may be rotated and also inclined in any direction and secured in varying positions, so that the operator may, with facility, place the occupant of the chair in positions most favorable for his comfort and for the successful and ready performance of the operation.

The inventor says: I *claim*, first, the foot-rest *O*, arranged with the slides *j j*, racks *n*, pinions *m*, and pawls *o*, substantially as described.

Second. The supplemental back *P* attached to links *q* which are fitted in the slot *p* of the back *c*, and actuated by the set-screw *s*, substantially as set forth.

Third. The adjustable head-rest formed of the slide *u*, pinion *w*, plates *Q R* and *a' b'*, arranged relatively to each other and applied to the back *c*, substantially as set forth.

No. 19,052.—GEORGE W. TRIPP, of Auburn, N. Y.—*Improvement in Dentists' Operating Chairs*.—Patent dated January 5, 1858.—This invention consists, first, in arranging the handles of the holding and releasing catches of the adjusting mechanism, so that the operator from the rear of the chair, and without stooping, has entire control of all the adjusting mechanism, enabling him while operating to adjust and regulate the chair as he pleases.

Second. In arranging the adjustable rods for regulating the height and inclination of the chair, so that one set is made the fulcrum on which the chair turns and is steadied, while the other set is being raised or depressed; and the chair itself forms a strong bent lever by which the operator is enabled to make the adjustment from the rear while the patient is in it.

Claim.—First, the arrangement of the holding and releasing catches and of the adjusting mechanism as described, so that all the adjustments can be made from the rear of the chair without stooping.

Second. The combination of supporting rods *l* with the inclining link *r*, arranged as described, for the purpose set forth.

No. 22,063.—JAMES J. CLARK, of Philadelphia, Pa.—*Improvement in the Mode of Connecting Electro-Magnetic Apparatus with Tooth Forceps*.—Patent dated November 16, 1858.—This invention consists in the interposition of a foot key in the course of one of the wires composing the circuit, so that the dentist can have the circuit open or incomplete until the proper moment, and then with his foot close it, thus preserving the free use of his hands.

Claim.—The employment of the foot key *K* or its equivalent, in combination with the electro-magnetic machine and forceps, arranged and operating substantially as described.

No. 22,018.—CHARLES H. DAVIDSON, of Charlestown, Mass.—*Improvement in Lacteal Instruments*.—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Constructing the article known and worn as a "breast shell," and made of any size, form, or material, suitable for the performance of the well-known functions or uses proper to such device, with a

transfer pipe or tube forming an integral part of the shell, when said tube is arranged as described, and serves for the ready and advantageous attachment of a flexible pipe with nipple jointed to it, substantially as and for the purposes set forth.

No. 21,289.—OLIVER DAVID WILCOX, of Elmira, N. Y.—*Improvement in Attachments to Artificial Legs*.—Patent dated August 24, 1858.—This invention consists in providing for the adjustment of the sack which forms part of the subject-matter of letters patent granted to this inventor September 30, 1856, to adapt it to the condition of the stump by means of straps and buckles applied as described.

Claim.—Providing for the adjustment of the sack H by means of straps and buckles applied substantially as described.

No. 22,362.—HENRY GLYNN, of Baltimore, Md.—*Improvement in Medicated Fabrics*.—Patent dated December 21, 1858.—The following quantities of the ingredients used in this invention or discovery will show their relative proportions, viz: 10 or 15 pounds of electric calomine, 15 pounds of sulphate of copper, and 15 pounds of any common hard soap; the two latter ingredients to be dissolved in boiling water.

The material is immersed in the above-named composition, which is mixed in boiling water, and suffered to remain about twenty minutes; after which it is taken out and washed in several waters.

Claim.—As a new article of manufacture, cloth or paper chemically prepared, for sanitary purposes, with a solution of which copper or copper and calomine are the bases, such manufactured article being designed for the prevention of or as a protection against infectious or contagious diseases, and made as stated.

No. 20,896.—ALEXANDER F. ROSE, of Brooklyn, N. Y.—*Improvement in Medicated Vapor Apparatus*.—Patent dated July 13, 1858.—This apparatus consists of a heater or cooler for heating or cooling air or other gaseous or aeriform body, or a generator for generating steam or other vapor or fume, and a pair of bellows and pipes connecting the heater or cooler with a proper mouth-piece or mask D, to be directed or applied to any part of the body for the purpose of bringing hot or cold air, vapor, or fume, in contact with the body, to act as a remedial agent.

The inventor says: I *claim*, first, the construction of the mask D, with a marginal cushion, a single or double back, and passages, substantially as described.

Second. The construction of masks for encircling the neck or other part, in the manner substantially as represented in figs. 3 and 4; that is to say, with a band of wire cloth or other sufficiently flexible but yet sufficiently stiff material, a marginal cushion *g*, a passage box H, and an enveloping cloth I, of water-proof; the whole being combined substantially as described.

No. 21,291.—C. C. WINGO, of Newport, Va.—*Improvement in Obstetrical Chairs*.—Patent dated August 24, 1858.—The nature of this

invention consists in combining with a portable chair of a peculiar construction a set of pads, straps, and handles, so that the patient, without aid or assistance, can readily apply them to her person, and obtain that support to the back, and relief from the distressing pains of the thighs in the hours of parturition, which are so much desired in such cases.

The inventor says: I do not claim as new any and every arrangement of the pads and straps which would produce like results.

But I *claim* passing the straps or cord *b* through the standard *H* of the portable chair at a point on a level, or nearly so, with the pad *O* and cord *a* around the pulleys *c* in the back of the chair, and a little above the seat of the same, substantially as described, so that the operation of the straps or cords will be in the direction in which support is most needed, and the counter pressure produced by the action of the two pads *O* and *G* may have the fullest effect.

I also claim the adjustable hand slats *c c* and the foot pieces *J J*, when arranged and combined with a portable chair, substantially as described, for the purpose of adapting the chair to different persons.

No. 21,189.—WILLIAM ELMER, of New York, N. Y.—*Improvement in Pessaries*.—Patent dated August 17, 1858.—The nature of this invention consists in forming a uterine supporter of a light, flexible or elastic bar or tube of gold, or other suitable material, bent in the form of a yoke at its middle and posterior part, curved outward and downward at this part to correspond with the raphe of the perinæum; then extending along the vagina, resting upon the sphincter vaginae, and terminating in a small bulb or rounded end which rests against the pubic bones on either side of the urethra, so as to adapt its several parts to the portions upon and against which they respectively rest; and in providing the upper rear end of this curved bar with a circular or nearly circular cup, or inverted frustum of a cone, in which the cervex uteri rests, in such a manner as to form a support for the uterus in case of its displacement from any cause, without in any manner impairing or in any manner interfering with the performance of the functions of the uterus, or any of the adjacent organs.

Claim.—Giving the peculiar form to the curved bar or tube *A* described and represented, and attaching to its posterior or rear part a ring-shaped cup or inverted frustum of a cone *C*, in such relation thereto as to enable the instrument to perform the functions for which it is designed, in the manner and for the purpose before described.

No. 20,754.—WILLIAM M. WRIGHT, of Pittsburg, Pa.—*Improvement in the use of Dentists' Pattern Plates*.—Patent dated June 29, 1858.—The nature of this invention consists in using a material for the pattern that can be readily rolled to any desired thickness, sufficiently strong when modelled to the cast, to be handled, and have the teeth attached to try them in the mouth, without danger of alteration or change in the pattern, and also to possess the quality of melting at a low degree of heat.

The inventor says: I make no claim to the casting of such work, the process being described in the Dental Journal of 1852.

But I *claim* the use of metallic pattern plates, or their equivalents, made as described, for the purpose set forth and specified.

No. 19,025.—JOHN GRUOL, of New York, N. Y.—*Attachment of Adjustable Foot-Boards to Splints*.—Patent dated January 5, 1858.—A A represent two boards or strips, the adjoining ends of which are fitted in sockets *a*, having each a rack *b* attached. These racks are fitted and work in a box B through which a shaft *c* passes, said shaft having a pinion *d* upon it, which pinion gears into the racks *b b*, the pinion being between the two racks.

The inventor says: I am aware that in the patent of George Jarvis, 1843, a rack and pinion are used for the purpose of giving the necessary extension of the side frame; therefore I disclaim such use of racks and pinions.

I *claim* the combination of an adjustable foot-piece D with the board A, substantially as set forth.

No. 21,872.—WILLIAM BUNCE, of Sullivan, Ohio.—*Improvement in Extension Splints*.—Patent dated October 26, 1858.—The nature of this invention consists in the construction of an adjustable extension splint and pads for the reduction of fractures and dislocations, being so constructed and arranged that extension to any desired extent can be made without removing the splint from the limb of the patient; in the adjustment of the pads in such a manner that the pressure is not produced upon the arteries; and also in such an arrangement that the free use of the knee-joint is allowed without disturbance to the fractured bone, either above or below the knee-joint.

Claim.—The combination and arrangement of the side pieces B D E, forming the band *c c² g g¹*, and set-screws, and adjustable splint; the foot-piece A with its joint *b* and set-screw, the flexing braces F, the extension bar K, the windlass N and cord M, perineal pad H, and pads 1 2 3 4, all combined and arranged as described, so as to form an extension splint, operating in the manner substantially as set forth for the purpose specified.

No. 19,916.—GEORGE DIFFENBACH, of New York, N. Y.—*Improvement in Bases for Artificial Teeth*.—Patent dated April 13, 1858.—The inventor says he makes these articles in the following manner: I take an impression in wax or plaster of Paris of that part of the mouth which I wish to imitate. I then pour fluid plaster into that impression, and leave it therein until dry; thereby I obtain the original mould. I then arrange and fasten the requisite number of artificial teeth on this mould, which is now ready to receive the hot composition, consisting of amber, linseed oil, gutta-percha, and sulphur.

Claim.—Making the base for artificial teeth of a composition of matter in which amber forms the principal ingredient, in the manner substantially as described.

No. 20,905.—CHARLES C. THOMAS, of Natchez, Miss.—*Improvement in Apparatus as Aids in Extracting Teeth*.—Patent dated July 13, 1858.—This invention consists in an instrument which is held in

place by being grasped between the upper and lower jaw, and which is provided with a pad for holding out the cheek, as well as a shield, guard, or finger, for holding the tongue away from the tooth or place to be operated upon; by which means the operator has the free use of both his hands, whilst the patient is free from the inconvenience of having the mouth drawn down or away, as heretofore practiced.

Claim.—A dental instrument having the adjustments substantially as stated, and adaptable to the purposes specified.

No. 21,853.—JACOB S. SIMMERMAN, of Glassborough, N. J.—*Improvement in the Method of Applying Electricity during Extraction of Teeth.*—Patent dated October 19, 1858.—The claim and engraving explain the nature of this invention.

Claim.—Applying electricity to the gums or teeth, or both, during the operation of extracting teeth, by means of the insulated adjustable spring clip described, or its equivalent, the said clip being connected to one of the poles of an adjustable electro-magnetic machine, or its equivalent, as set forth, and for the purpose specified.

No. 20,390.—JEROME B. FRANCIS, of Philadelphia, Pa., assignor to WILLIAM HARPER, jr., of said Philadelphia, assignor to JEROME B. FRANCIS, assignor to JAMES F. CLARK, of said Philadelphia.—*Improvement in the Method of Extracting Teeth.*—Patent dated May 25, 1858.—This improvement consists in combining with a common dental forceps an electro-magnetic machine in such a manner that a wire C from the negative pole P of the machine shall form a metallic connexion with that part of the forceps D that grasps the tooth, and that the positive pole of the machine shall be connected with the patient's hand by a metallic connexion.

Claim.—The combination of the electro-magnetic machine, or its equivalent, with the forceps, for removing teeth without pain, arranged and operating substantially in the manner described.

No. 19,914.—WILLIAM F. DAILY, of Baltimore, Md.—*Improvement in Truss Pads.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, constructing a hollow truss pad or supporter A for hernia, with a series of small perforations *c* in its front plate *a*, in combination with enlarged openings in its back plate, so as to allow some healing substance to be brought in contact with the body, and also ventilation or a perfect and healthful circulation of air through it and over or about that part of the body covered by and with which the pad or supporter A comes directly and constantly in contact, substantially as set forth.

Second. Attaching the pad A to the main spring of the truss or body strap C, by means of the combined agency of a recess or groove C in the back of the pad, an oblong slot D in the main spring, and a single set-screw E, whereby every facility of adjusting the pad A speedily, by simply operating one screw E, is afforded, and at the

same time the liability of the pad A twisting round and rubbing is avoided, substantially as set forth.

No. 20,444.—HIRAM H. REYNOLDS, of Buffalo, New York.—*Improvement in Truss Pads*.—Patent dated June 1, 1858.—The vertical projection B runs diagonally across the pad A, and is placed parallel with the pubic bone. *c* is the concavity made in the pad below the vertical projection; it is cushioned with soft material, so as to rest easily on the pubic bone and protect the spermatic cord; I corrugations made in the oval face of the pad for the purpose of facilitating the healing process.

The inventor says: I *claim*, first, the transverse vertical projection B, for purposes and substantially as set forth.

Second. I claim making the pad concave below its vertical projection, as represented at *c*, for the purposes and substantially as described.

Third. I claim corrugating the oval face of the pad, for the purposes and substantially as set forth.

No. 21,548.—CORNELIUS CAMPBELL, of St. Louis, Missouri.—*Improvement in Truss Pads*.—Patent dated September 21, 1858.—This is an improved mode of preventing the escape of viscera through hernial openings in the human body, by obtaining exact and perfect impressions of such openings, by means of compression in gutta-percha, and using the same for truss pads, which, fitting with accuracy to the openings and surrounding parts, prevent the escape of the contained viscera, and, by exercising constant pressure upon the condensed cellular tissue which constitutes the hernial rings, causing them to harden and contract in order to produce a cure.

These pads can be placed on any of the known truss springs.

Claim.—The application of pads made of gutta-percha in the manner described in the specification for the prevention of the escape of viscera through hernial openings in the human body.

No. 21,767.—LAZARUS B. McLAIN, sr., of New Lisbon, Ohio.—*Improvement in Truss Pads*.—Patent dated October 12, 1858.—The claim and engravings will give the reader an idea of the nature of this invention.

Claim.—Constructing pads for trusses, for hernia, or rupture, of solid blocks of half cones with plane and curved faces, as set forth.

XXI.—WEARING APPAREL.

No. 19,932.—WHITTEN E. KIDD, of New York, N. Y.—*Improvement in Bonnet Frames*.—Patent dated April 13, 1858.—The inventor says, in describing his invention: I cut out two thicknesses of cape net to make the front *b*, two others to make the crown *c*, and two

others, to make the tip *d*; but for greater expedition, I cut some twenty. Having cut the parts, I take three thicknesses of the material known as buckram, moisten one of them with water by rubbing it over with a soft brush dipped in water, and lay it between the other two dry ones. On these I pile twenty (more or less) thicknesses of the cape net, cut as before stated, and on the top I lay three thicknesses of buckram prepared in like manner as those below. On the top I pile another batch of pieces of cape net, and so proceed until I get the desired quantity; I then lay on the top a board with a slight weight, to make a slight pressure, and let it remain over night, when the whole will be found slightly moistened. The next day I take the pieces, two at a time, and subject them to pressure between heated moulds of the required configuration, by which they assume the figure desired, and the two thicknesses unite where they come in contact.

Claim.—Making ladies' bonnet frames of two thicknesses of cape lace, substantially as and in the manner specified.

No. 22,242.—CHARLES A. POSTLEY, of Jersey City, N. J.—*Improvement in Bustles*.—Patent dated December 7, 1858.—This invention consists in a bustle composed of a series of elastic hoops and ribs connected together by slides in such manner that the diameters of the hoops can be extended or contracted, and their positions in relation to each other and to the ribs can be changed, as well as the relation of the ribs to each other.

Claim.—The combination of adjustable hoops and adjustable waist ribs, arranged in the manner described, so that the size of the bustle and the position of the hoops may be varied to suit the wearer.

No. 20,865.—HANDEL N. DAGGETT, of Attleboro', Mass.—*Improvement in Bustles and Skirts*.—Patent dated July 13, 1858.—In the engravings A exhibits an ordinary skirt, of which *a a a* are the hoops, *b* the waist band, and *c c c* the connecting bands; B represents the adjusting cord as roved through eyelets made in two of the adjusting bands.

The inventor says: I wish it distinctly understood that I lay no claim to the invention of the adjusting cord as applied to a bustle or a skirt.

But I *claim* the improvement or combination of the back strut with the bustle or skirt and the adjusting lacing, such being applied and made to operate as and for the purpose specified.

No. 22,133.—GEORGE V. PIERCE and EDWIN A. PIERCE, of New York, N. Y.—*Improvement in Bustles for Ladies' Dresses*.—Patent dated November 23, 1858.—This invention consists in the use of curved springs of steel or equivalent material, arranged in a peculiar manner in an outer covering or thickness of material, or connected in skeleton form, and an inner lining, or connexion between the ends of the curved springs, whereby their general shape is maintained, and may be packed for transportation in a small space.

The inventors say: We *claim* the springs *a a* fitted into a bishop or bustle, in combination with a linking or strap forming a straight

line of connexion between the ends of said springs, for the purposes set forth; and in combination with said springs *a a* fitted into a bishop or bustle in the manner specified, we claim the springs *c c*, arranged and acting in the manner and for the purpose described.

We also claim the strap *f* or tape, in combination with the springs *a a* and bustle, substantially as and for the purposes specified.

No. 20,707.—LESTER GOODWIN, of New York, N. Y.—*Button Fastening*.—Patent dated June 29, 1858.—When the horizontal arms D M are pointing in nearly the same direction, (fig. 11,) they can be passed together through a sufficient aperture; then one arm D M can be extended in another direction O M, to prevent withdrawal, and is fastened in that position by the spring E F, easily passing the obstruction L on the surface H K, from which it can return only when elevated from it.

The inventor says: I do not claim the employment of two parallel stationary bars with arms forcibly bent at right angles in different directions to fasten, and which must be forcibly bent back again when removed for that is recognised as a well known idea.

But I *claim* making one right-angled piece M D A E movable on its perpendicular leg, in and embraced by a band B to another right-angular piece M D C G, and depending upon it for support. And the controlling of the position of the movable right-angled piece by a spring F E. And the confining the spring F E, by obstructions L, on the surface H K swept by it, substantially combined as represented.

No. 20,632.—CHARLES CURRIER, of Providence, R. I.—*Improvement for Cutting Button Holes*.—Patent dated June 22, 1858.—This invention consists in the employment of rotating cutters F, peculiarly constructed and fitted within a lever or handle E, an adjustable bed C, and adjustable guide, so that a very simple and efficient implement is obtained for the purpose designed.

The inventor says: I am aware that rotatory cutters and tools of various kinds have been arranged or connected with rotating stocks, so that in the same implement tools of various kinds and of different sizes might be used. I do not claim, therefore, the rotating cutters F, when separately considered.

But I *claim* the lever E provided with cutters F, in combination with the adjustable bed C and gauge D, arranged substantially as and for the purpose specified.

I also claim the snips *f* made separate from the parts *e* of the cutters F, and attached to the plates *g* by means of the screws *i*, whereby the snips may be readily detached from the parts *e* of the cutters, and sharpened or ground with facility.

No. 19,120.—JEAN FELIX BAPTEROSSES, of Paris, France.—*Improvement in Buttons*.—Patented in France January 7, 1857; patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, as a new article of manufacture, the button composed of porcelain, enamel, or of any material susceptible

of being cast wherein the neck or shank is fixed by means of fusible metal melted into tapped or conical holes or recesses made during the process of casting of said button, by means of the mechanism described, or its equivalent, substantially as specified.

No. 20,194.—HENRY COGSWELL, of Providence, Rhode Island.—*Fasteners for Sleeve Buttons*.—Patent dated May 11, 1858.—This invention consists in pivoting a bar to a projection at one end of the under side of a plate, said bar being secured to a projection at the opposite end of the plate by a “snap,” the whole being so arranged that one button is made to answer the purpose of two linked plates.

Claim.—Constructing sleeve buttons by attaching the bar B to the projections *a b* at the inner side of the plate A, as shown, viz: one end of the bar being pivoted in one projection *a*, and the other projection containing a catch *e* and spring *i* to retain the opposite end of the bar when closed, substantially as shown and described.

No. 22,443.—ANNE S. McLEAN, of Williamsburg, New York.—*Improvement in Corsets*.—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Providing the upper section or pads of the corset with cone-shaped flat steel, or their equivalent, springs and spring-supporting plate next the body for the purpose of giving elasticity to the pads, which pads are held in their places by the weight of the corset.

No. 19,418.—J. H. HALL, of Kittanning, Pennsylvania.—*Substitute for Infants' Diapers*.—Patent dated February 23, 1858.—This invention consists of an air cushion A¹, which is of such form as to fit the posterior of an infant, and is provided with an opening *a* in the centre, combined with a cloth of a proper form and a bag or receptacle of India-rubber, or other water-proof material, in such a manner that when the cushion is attached to the body the excrement and urine will be discharged through the opening in the cushion into the bag or receptacle, where it will be retained without coming in contact with the body, which will be protected from it by the interposition of the cushion.

Claim.—The combination of a cushion A, bag or receptacle B, and cloth C D, substantially as described for the purpose set forth.

No. 22,366.—JOHN C. HALL, of Fayette, Mississippi.—*Improved Manufacture of Portable Fans*.—Patent dated December 21, 1858.—A represents a series of short bars which are placed parallel with each other, and B represents a series of bars which are also placed parallel with each other, but are placed in a reverse position with and cover the bars A, the two series of bars being connected together by rivets *a* and forming an endless frame. The bars A thus joined or connected together will form, when closed or folded together, a cylinder, and when opened an annular frame, as shown in the engravings; the bars, as they are distended, assuming a flat position, or a position at right angles to that occupied by them when in a folded state.

Claim.—The fan as a new article of manufacture, when constructed in the manner described.

No. 19,271.—JAMES M. WESTON, of Chesterfield, New York.—*Improvement in Machines for Draughting Garments.*—Patent dated February 2, 1858.—This improvement consists of a connecting scale and rotary arm size. It is very simple; and from its easy and cheap construction, and the correctness and accuracy with which the scales are made to apply, every lady may be able by the use of the machine to cut garments with accuracy and with little expense.

Claim.—The adjustable curved plate or arm size 7 and index pointer 9, in combination with bed rule 2 and connecting rule 5, provided with their several scales, when constructed and operating in the manner described, for the purpose specified.

No. 19,228.—FRANCIS ARNOLD, of Middle Haddam, Connecticut.—*Improvement in Clamps for Holding Ladies' Hair in Curl.*—Patent dated February 2, 1858.—This invention is designed to supersede the use of papers for curling ladies' hair by means of a "pinch," as it is technically termed by hairdressers. This invention consists in the employment or use of thin metal tubes, provided each with an elastic strap, or an equivalent device, for a fastening.

Claim.—The described device for curling the hair, consisting of a tube A, constructed as shown, and provided with elastic straps B, or their equivalents, for the purpose set forth.

No. 20,069.—ASA JOHNSON, of Cairo, New York.—*Improvement in Hose Supporters.*—Patent dated April 27, 1858.—The nature of this invention consists in forming a supporter for ladies' hose of hair cloth, or any other equivalent texture, whereby, at the same time, the hose can be supported and form given to the limb.

In figs. 1 and 2 those parts marked A represent pieces of elastic inserted in the material on the front, in order to allow the supporter to stretch and give room for the foot as it passes through and make it fit snugly at the ankle and above the calf of the leg when on.

Claim.—The hose supporter, or its equivalent, for the purpose of supporting the hose and giving form to the limb, in the manner specified and set forth.

No. 20,834.—WILLIAM P. WARE, of Cincinnati, Ohio.—*Ear, Cheek, and Chin Muff.*—Patent dated July 6, 1858.—The nature of this improvement consists in making pockets for each ear by taking a ring or frame of wire *a a*, or other material, and covering it with fur or other substances with such a fulness as to form a pocket in which the ears are placed for the double purpose of protecting them from cold and supporting and holding the cheeks and chin portion of the muff to their respective parts.

Claim.—The arrangement of the ear, cheek, and chin pieces, constructed as represented in fig. 1 of the drawings, and joined together in the manner represented and for purposes specified in the specification.

No. 20,708.—BENJAMIN J. GREELEY, of Springfield, Massachusetts.—*Improvement in Pantaloons*.—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Making up the back part of pants with a lapel and elastic straps A, instead of seaming them, as they have invariably been made; also the cutting of the top part or waistbands of pants so as to be perfectly and pleasantly suspended at only two points, as C.

No. 19,280.—JOHN G. KLINGER, of Jersey City, New Jersey, assignor to IGNATIUS STURN, of New York, N. Y.—*Improvement in Diaper or Shawl Pins*.—Patent dated February 2, 1858.—In describing this improvement the inventor says: I employ a curved pin or hook *a*, which is thrust beyond and retracted within the case *b*; but instead of a straight slot in the side of the case along which the projecting part of the hook slides, I form the slot in a spiral direction around it. The base of the hook is affixed to a slide that fits the interior of the shield and slides along within it when the shield is revolved.

Claim.—The spiral shield, the stops, and friction detent, all as specifically and severally set forth.

No. 21,966.—JOSEF JOHNSON, of New York, N. Y.—*Improvement in Shield Pins*.—Patent dated November 2, 1858.—The nature of this invention consists in an improved method of more securely shielding the point of the pin, which is effected by forming a fold or coil on each side of the body of the pin, thus forming the shield, the fold or coil being left open on each side of the body of the pin at the point where the pin enters and passes into the centre of the shield, so as the more readily to allow the point to be sprung in and out, to or from either side, with ease and rapidity.

Claim.—Shielding the point of the pin within folds or coils when turned on both sides the main stem as described at B, in figures 1 2 and 3, and at C, in figures 5 6 and 7.

No. 22,159.—JOEL BRYANT, of Brooklyn, New York.—*Improvement in Scissors*.—Patent dated November 30, 1858.—The nature of this invention consists in the construction of scissors which are provided with a spring or springs connecting with the rivet, joint, and blades, so as to produce a uniform pressure upon the blades at whatever angle they cut; so, also, to obviate the results of wear from use by the contraction of the said spring or springs; so as to prevent the blades of the scissors from becoming loose or "shaky;" so as to require tightening-like scissors secured at the joint by an inflexible rivet, or as when the blades are bound together by firm and unyielding plates of metal.

Claim.—The exclusive use of scissors when provided with a spring or springs connecting with the rivet and blades, substantially as described and for the purposes set forth.

No. 21,369.—JAMES H. ROOME, of New York, N. Y.—*Improvement in Shears*.—Patent dated August 31, 1858.—The nature of this improvement consists in forming the handle and upper cutting blade of

the shears in two parts, and so connecting the former to the body or shank of the lower cutting blade and to the upper one as to enable the leverage exerted by the thumb to be gradually increased with the closing of the blades.

Claim.—The combination of the additional connecting rod F with the rod D and upper slotted handle E, for enabling the leverage exerted by the thumb to be increased with the closing of the upper blade A, substantially as described.

No. 22,039.—JOHN STEVENS, of New York, N. Y.—*Improvement in Shirt Bosom Folders.*—Patent dated November 9, 1858.—This invention consists in the arrangement of a series of strips of metal made of equal lengths and width, with a number of pins secured in a slot in angle irons attached to the ends of the bed plate and there secured by a nut on the under side; the angle irons, being graduated, admit of a ready adjustment of the pins to any distance apart, the distance being equal to the width of the plates described in the bosom.

Claim.—The combination of a series of tins, made as described, with a series of pins arranged in a slot in the angle irons attached to the bed-plate, the pins being adjustable, by means of which the plates can be made of any desired width without different sizes of tins, with the lifters for raising the tins from the pins, the whole being arranged as described, for the purposes set forth.

No. 22,442.—CHARLES MCINTIRE, of Newark, N. J.—*Shirt Stud.*—Patent dated December 28, 1858.—The nature of this invention consists in using and applying a peculiarly constructed spring latch for the purpose of connecting the parts of a stud or button together.

The spring *e* is soldered fast to and forms part of the latch *d*, both being held in place by having the end of the spring soldered fast to the back of the plate at the extreme end from the latch, and also by the guard-piece *f*, as well as the edges where the top of the latch projects through the back.

Claim.—The latch *d* and catch, constructed substantially in the manner and for the purpose set forth.

No. 22,375.—JOHN PECKHAM, of New Haven, Conn.—*Improvement in Draughting Shirts.*—Patent dated December 21, 1858.—The object of this invention is to obtain a definite rule or system of measurement for draughting shirts, by which a person's measure may be taken and laid or drawn out upon the muslin or other material with perfect accuracy, and in such a manner as not only to insure a perfect fit, but also to have the parts so disposed as to economize in the bosom material and render the shirt more durable and capable of being ironed with more facility than usual.

Claim.—Draughting shirts by means of the neck and breast measures A B, formed and applied to the cloth as shown and described, so that the neck circle will be chiefly cut or formed in the back portion of the shirt, and the upper part of the back portion folded over and united to the top of the front portion on a line with the base of the neck, as set forth.

No. 21,839.—GEORGE MALLORY, of Watertown, Conn.—*Improvement in Hoop Skirts*.—Patent dated October 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the construction of one or more of the hoops or springs $A^1 A^1$ of a skirt, with elastic pieces $a a$, or their equivalent, arranged one on each side, so as to provide for flexure of said hoop or hoops over the edge of a seat when its or their back parts are sat upon, without impairing the inflexibility, in an upward and downward direction, of any other parts than those where the flexure is immediately required, substantially as described.

No. 20,561.—DAVID HOLMES, of Westfield, Mass.—*Improvement in Skirt Hoops*.—Patent dated June 15, 1858.—The hoops in this skirt are connected together by a series of interlacing hoops. A peculiar kind of clasp is employed for connecting the hoops, and eyes $e e$ are formed at the extremity of the hoops which act as slides.

The inventor says: I *claim*, first, the connexion of the hoops by interlacing loops in the manner substantially as described.

Second. The attachment of the loops to the hoops by two lipped clasps $E E$, applied in the manner substantially as described.

Third. The formation of eyes $e e$ in the braiding at the extremities of the hoops, to serve as slides, substantially as specified.

No. 20,681.—ROBERT J. MANN, of Brooklyn, New York, assignor to L. A. OSBORN, of Newark, New Jersey, and I. J. VINCENT, of New York, N. Y.—*Improvement in Skirt Hoops*.—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim as new the expansion of the hoops in ladies' skirts, for that is not new.

But I *claim*, first, the peculiar formation of the slide g , the said slide being made of brass or other metals, and having its slides bent two ways, the one clasping the end of the loop and made fast thereto, and the other end made to slide freely on the hoop.

Second. Securing the hoop d to the perpendicular straps by means of small clamps constructed as described.

Third. The formation of a bustle or corrugated projection $a a$ on the upper hoops on the back of the skirt, in the manner and for the purpose set forth.

No. 20,720.—MARTIN LANDENBERGER, of Philadelphia, Pa.—*Improvement in Skirt Hoops*.—Patent dated June 29, 1858.—A series of loops sufficient to form a fringe for the bottom of the skirt having been knitted by an ordinary knitting machine with two straight rows of the usual needles, an elastic strip of steel, brass, whalebone, cane, or other substance, is introduced into the knitting machine in such a manner as to become interlocked in one of the rows of loops. B is a gum-elastic band with a buckle or other fastening for securing the skirt to the waist of the wearer. D is a band or strap in front of the skirt.

Claim.—Constructing hooped skirts of a knitted fabric with elastic

hoops interlooped in the same, substantially in the manner and for the purpose set forth.

No. 20,801.—AUSTIN KELLEY, of New York, N. Y.—*Improvement in Skirt Hoops*.—Patent dated July 6, 1858.—In the engravings *a a a* represent the outside hoops connected together by means of the strips of cloth *b b b*; *d* is a band at the top of this series of hoops; said band goes around the waist and secures the hoops to the person of the wearer. The ends of the outer hoops meet, and are secured together by means of the elastic bands *e e e*. *c* are a series of smaller hoops within hoops *a*; hoops *c* are adjustable like the outer hoops, and are connected at *x*.

Claim.—Combining and arranging two hoop skirts together in the manner set forth, the inner skirt being adjustable, for the purpose of forming a bustle when contracted, and for an additional support to the outer skirt when expanded, as fully described.

No. 22,385.—JOHN STEVENS and JAMES HANLEY, of New York, N. Y.—*Improvement in Buckles for Skirt Hoops*.—Patent dated December 21, 1858.—The nature of this invention consists in making a buckle with an eye formed to admit the passage of the hoop's ends through it, as seen at A, one end of the hoop overlapping the other, as seen at the depression of the end of the buckle operating as a lever pressing them together; each end of the buckle terminates with a hook H H; and when the end of the buckle is brought down to the hoop's surface, a ring slide with a hole in it at *b* is passed over the end of the buckle, so that the hook of the buckle springs into the hold of the slide, and thus the fastening is made secure.

Claim.—The buckle, when constructed substantially in the manner described, in combination with the slides having holes to receive the hook of the buckle, for the purpose set forth.

No. 20,598.—THOMAS WALLACE, jr., of Ansonia, Conn.—*Clasp for Skirt Hoops*.—Patent dated June 15, 1858.—This is a convenient and simple clasp for attaching the tapes to the hoops of ladies' skeleton skirts.

Claim.—The clasp formed with lips *b b* at each side of each end, and with teeth *c c* at its edges, to operate in the manner set forth.

No. 21,373.—A. SMART, of New York, N. Y.—*Improvement in Clasps for Hoop Skirts*.—Patent dated August 31, 1858.—This clasp consists in a piece of metal plate A, the greater portion of which is of a width about equal to that of the skirt hoops, but is made wider at the ends, as shown in the engravings, to form on each side two lips *a a*, by which it can be clamped to the hoop.

The inventor says: I do not claim to be the first inventor of hoop clasps, nor do I claim any part of the described clasp that is seen in the patent granted to T. Wallace, jr., January 15, 1858.

But I *claim*, as an improved article of manufacture, a hoop clasp constructed with a longitudinal loop *c*, substantially as and for the purposes shown and described.

No. 21,747.—ALEXANDER DOUGLAS and SAMUEL S. SHERWOOD, of New York, N. Y.—*Improvement in Fastenings for Skirt Hoops*.—Patent dated October 12, 1858.—This improvement consists in the combination of a clasp which embraces the ends of the hoop, and has an opening on one side to receive the end of the link, with a spring link which passes through both the clasp and the ends of the hoop, and is retained in a proper position by resting in an opening in the side of the clasp, while yet it is so constructed as to be readily removed to release the clasp and the ends of the hoop.

Claim.—The combination of the link or loop C with the clasp B having an opening in its side to receive and retain one prong of said loop, and with the hook, substantially as and for the purposes set forth.

No. 22,355.—ALEXANDER DOUGLAS and SAMUEL S. SHERWOOD of New York, N. Y.—*Improved Slide and Fastening for Skirt Hoops*.—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combined clamp and slide, made entire of one piece by forming the clamp of the divisions *b* and *c*, and the slide of the lips *d*, as described, the division *b* and *c* being entire, and connected at both ends to the plate, as shown, thus forming a continuous connexion around the end of the hoop, for the purpose stated.

No. 21,709.—WILLIAM M. WARREN, of New York, N. Y.—*Improvement in Slides for Skirt Hoops*.—Patent dated October 5, 1858.—This slide is composed of two separate pieces of metal plate, one of which claspseither end of the hoop, and the other the portion of the hoop against which the end laps, the two being united between the hoops by the locking of their edges in such a manner that, except at its extremities, the clasp presents no edge upon the portion of the hoop upon which it slides, and therefore permits the adjustment of the hoops with less danger of tearing their covering.

Claim.—The slide composed of the two parts A B, formed as specified, and combined by a lock *a b c*, between the lapping portions of the hoop, substantially as described.

No. 21,581.—W. S. THOMSON, of New York, N. Y.—*Improvement in Eyelet Fastenings for Ladies' Skirts*.—Patent dated September 21, 1858.—The nature of this invention consists in combining with an eyelet a metallic washer or fastener, having attached, and forming a part thereof on two opposite sides, arms or clasps, which, when bent upon the hoop, firmly and securely attaches it to the suspender straps, in which the eyelet has been fastened.

Claim.—The use of the H-shaped washer or fastener, or equivalent, in combination with an eyelet, as a means of fastening together the straps and hoops of elastic skirts, substantially as set forth.

No. 21,479.—SAMUEL BEBERDY, of Philadelphia, Pa.—*Improvement in Ladies' Hoop Skirts*.—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination of a spiral stay B with a fabric which

constitutes a lady's skirt, when said stay is formed by winding a flexible strip or rod made of one piece or a series of pieces spliced or united together, continuously round the skirt from the bottom to the top of the body of the same, substantially as and for the purposes set forth.

No. 22,197.—SAMUEL PEBERDY, of Philadelphia, Pa.—*Improvement in Ladies' Hoop Skirt*.—Patent dated November 30, 1858.—The nature of this invention consists in constructing the expanding stay or support of ladies' skirts of one continuous rod or strip of flexible material, which is bent and arranged spirally, the fabric constituting the skirt, or interwoven in a spiral with the same, as shown in the engravings, the spirals of the stay being of gradually decreasing diameters from the bottom to the top of the skirt.

Claim.—The combination of a spiral stay B with the fabric which constitutes a lady's skirt, where said stay is formed by winding a flexible strip or rod made of one piece, or a series of pieces spliced, or united together continuously round the skirt, from the bottom to the top of the body of the same, substantially as and for the purposes set forth.

No. 22,426.—JOHN HOLMES, of Boston, Mass.—*Improvement in Ladies' Hooped Skirts*.—Patent dated December 28, 1858.—This invention consists in a circular net-work of cords or twine of a similar structure to the nets used for fishing; but so formed that, when the loops are passed through its meshes, the entire fullness of the skirt will be thrown in one direction in such a manner as to give it the bishop or bustle shape, and so that the skirt so formed will be self-sustaining, which enables it to retain the fullness in one direction and support the bishop or bustle shape from the top to the extreme bottom of the skirt, regardless of the weight of the dress upon it.

Claim.—The described net-work fabric, having the number or size of its meshes reduced toward the top in such a manner as to throw the fullness in one direction, or on one side, so that when the hoops are inserted it is self-sustaining to produce the "bishop" or "bustle" form, and preserve that form to the bottom of the skirt, as set forth, without the use of lacings, springs, extra "bustles," or other contrivances.

No. 21,806.—E. G. ATWOOD, of Derby, Connecticut.—*Improvement in Skeleton Skirts*.—Patent dated October 19, 1858.—The claim and engraving explain the nature of this invention.

Claim.—A skirt formed of tape or similar material, and a series of circle hoops, when the tape is passed over one hoop and under the next below it, in opposing oblique directions, and the tapes fastened at the points where they interlock on the hoops themselves, by clasping, sewing, or tying, substantially as and for the purposes set forth.

No. 22,051.—ROBERT J. MANN, of Brooklyn, New York, assignor to L. A. OSBORN and I. J. VINCENT, of said Brooklyn.—*Improvement in Skeleton Hoop Skirts*.—The nature of this invention consists in making ladies' skirts by forming a series of hoops, each being cut or parted so as to form two or more adjustable ends, so arranged that

the diameter of the skirt may be enlarged or diminished by connecting the ends of the hoops in such a manner that the ends will slide toward and from each other to enlarge and diminish the diameter of the skirt, in combination with belts or cords crossing the hoops to hold them together.

Claim.—In the construction of ladies' skeleton skirts the combination of a series of horizontal hoops, adjustable in diameter, substantially as described, with bands or cords crossing and connecting them, substantially as described.

No. 19,576.—N. C. NELSON, of Concord, N. H.—*Improvement in Skirt Supporters*.—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim a supporter waistband with shoulder straps.

I do not claim the use of hooks or buttons upon a supporter waistband for the purpose of attaching skirts thereto.

But I do *claim* the projecting out or flaring of the lower edge of the frame of the waistband, or of pieces attached to it, as E E E, (making the waistband shaped like the natural waist,) substantially in the manner described above, in order that the skirts may be supported, not by hooking, buttoning, or tying them to the supporter waistband, but by simply putting the skirt waistbands about the supporter waistband, in the same manner as they are put about the waist when no supporter is used.

No. 19,946.—DAVID PERRY, of Paterson, N. J.—*Improvement in Cords for Skirts*.—Patent dated April 13, 1858, antedated October 13, 1857.—This invention consists in the manufacture of a cord without tension or twist from any fibrous or filamentous material, the core of the same being covered and held together by spun yarn or thread wound tightly around in two opposite and contrary directions, whilst the fibrous core is in a state of considerable compression, and producing in consequence of such compression, together with the mode of lapping and winding, a hoop-like article in the form of a cord of great buoyancy, stiffness, and elasticity.

Claim.—The hoop-like manufacture of cordage, when made in the manner and for the particular purposes described; that is to say, I claim the untwisted fibrous or filamentous core, when compressed and lapped or wound, while in that state, in the manner and for the purposes described.

No. 22,308.—GEORGE D. RUSSEL, SAMUEL A. RUSSEL, and CHARLES L. RUSSEL, of Birmingham, Conn.—*Improved Forceps for Fastening Clasps on Hoop Skirts*.—Patent dated December 14, 1858.—This invention consists of a pair of pliers, whose jaws are provided with recesses and lips, and with a lever or wedge-like attachment, operating in combination with said lips to close the ears of the clasps upon the hoop.

Claim.—The pliers having their jaws provided with recesses *b b*, and lips *c c*, and with a lever or wedge-like attachment *B*, to operate in combination with the said lips, substantially as described.

No. 21,324.—ANTHONY G. DAVIS, of Watertown, Conn.—*Improvement in Sun Shades*.—Patent dated August 31, 1858.—This invention consists in having the handle of the parasol or umbrella formed in two parts, one part being fitted into and allowed to slide in and out from the other, and used in connexion with a stop and pressure bar, slide, ferrule, and hub or boss, the whole being arranged so that the handle may be extended or lengthened as the implement is opened, and shortened as it is closed or folded; one movement or operation answering for the opening of the parasol and extending of the handle, and one movement for the closing of the same and shortening the handle.

Claim.—The rod A provided with the hub or boss D, and the pressure bar and stop *f* in connexion with the hollow or tubular rod E, provided with the ferrule E¹, the above parts being arranged in relation with the frame B and slide D substantially as and for the purpose set forth.

No. 20,424.—BENJAMIN J. GREELEY, of Springfield, Ohio.—*Shoulder Brace Suspender*.—Patent dated June 1, 1858.—The nature of this invention will be understood by the claim and engravings.

The inventor says: I do not claim the invention of either shoulder braces or suspenders, as they have both been long known and used.

Nor do I claim anything as set forth in Daniel Minthorn's patent, granted June 5, 1855, for "an improved brace for supporting garments."

But I *claim* the arrangement and combination of two straps of unequal length, joined and running over the shoulders and across the back, and attached at two points on the sides of the waistbands of pantaloons, operating as a shoulder brace and a suspender, substantially as set forth.

No. 20,826.—W. R. STACE, of Rochester, New York.—*Tailors' Measure*.—Patent dated July 6, 1858.—This invention consists in an improved means of locating the shoulder point, or of placing the shoulder in proper position with the back part of the coat.

Claim.—The construction and use, substantially as described, of an instrument for measuring and drafting garments, said instrument consisting of the graduated arcs or dial plates A¹ and B¹, connected by the graduated arc C¹, said arc being expansible by means of slots, pins, and screws, as described.

No. 20,519.—L. B. STORRS, of Canton, New York.—*Tailors' Pressing Machine*.—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim broadly the application of a treadle to a pressing iron; for this has been previously done, and may be seen in hat-pressing and analogous machines.

But I *claim* the lever C, arm F, "goose" H, and treadle D, when connected together and arranged relatively with each other and the press-board J so as to operate as and for the purpose set forth.

I further claim the particular manner of connecting the "goose" H to the arm F, as shown, viz: having the "goose" provided with

the spindle *m*, which passes loosely through the sphere *K* of the universal joint *i*, whereby the "goose" is allowed an independent rotary movement, it being understood that I do not claim the sphere *K* and fork *l*, with its shank fitting in the arm *F*—for this is the usual universal joint—but only the peculiarity attending the connexion of the "goose" to the sphere, as set forth, in connexion with the sphere and fork.

No. 20,879.—ROCHUS HEINISCH, of Newark, New Jersey.—*Improvement in Tailors' Shears*.—Patent dated July 13, 1858.—The nature of this invention consists in constructing tailors' shears with an oblique slot *C* in the shank *E* of the lower blade *A*, running from the rear downwards, and in connecting the blades by a lever *B*, which, on the separation of the cutting edges, has the effect of moving the lower blade longitudinally and vertically, so as to give it a drawing cut, without the effect of diminishing the extent of the cutting edges.

The inventor says: I do not claim elongating the upper blade of a tailor's shears by means of an eccentric pivot.

Neither do I claim a stop set in one blade and working in a curved slot in the other, as that is fully shown in Joseph Phares' improvement on tailors' shears, patented September 12, 1854.

But I *claim* the oblique rectilinear slot *C* in the elongated shank of the lower blade *A*, in combination with the fulcrum *D* and lever *B* connecting the shanks, the whole constructed and operating substantially as and for the purposes set forth.

No. 22,124.—BENJAMIN JOHNSON, of Philadelphia, Pennsylvania.—*Improvement in Tournures*.—Patent dated November 23, 1858.—The claim and engraving explain the nature of this invention.

Claim.—A curved elastic projection or support, consisting of the springs *B* *B*¹ *B*² and webbing *C* *C*, or their equivalents, when the said springs are constructed, arranged, and fixed to a waistband *A*, so as to be held out thereby free from the under garments and person, as described, that they may operate in connexion with the webbing, substantially in the manner described, and for the purposes specified.

No. 19,998.—HENRY KURTH, of Brooklyn, N. Y.—*Improvement in Umbrellas*.—Patent dated April 20, 1858.—*A* represents the stock, *B* the rib, *C* the stretcher of the runner, and *d* the notcher of the umbrella frame.

Claim.—Making the rib by coiling the wire into loops, which serve like ordinary holes in the rib for the joints, and attaching the stretcher to the middle loop without the interposition of intermediate links, substantially in the manner and for the purpose as described.

No. 21,313.—CHARLES BOERNICKE, of Baltimore, Md.—*Improvement in Umbrellas*.—Patent dated August 31, 1858.—This improvement refers to that class of umbrellas which can be folded together to occupy very little space, so that they may be carried in the pocket of a coat.

Claim.—Constructing a pocket umbrella as described, consisting of rods *D* *D* *D*², *E* *F* *G*, joint lever *n*⁵ *p*, collar piece *a*³, rod *C* with

projection *m*, stick *A* *A*¹ *A*² *A*³, provided with disks *a* *a*¹ *a*², and lever *b*, with springs *c*, all combined and operated as set forth.

No. 21,855.—HENRY STEELE, of Jersey City, N. J.—*Improvement in Umbrellas*.—Patent dated October 19, 1858.—This improvement consists in the combination of a lock with the closing catch of an umbrella, so that when the umbrella is locked it can only be opened by the possession of the key; it will be thus rendered useless to others.

Claim.—The combination of a lock with a closing catch of an umbrella, for the purpose specified.

No. 22,033.—FREDERICK REICHHOLD, of New York, N. Y.—*Improvement in Frames for Umbrellas and Parasols*.—Patent dated November 9, 1858.—The stretcher *E* is formed of two wires *E* and *E*¹, the latter being coiled around the former, and extending its coils beyond both ends of the exterior wire; the upper coils are then bent, hooked, or fastened on or into the loop or eye *o* formed by the exterior wire of the wire rib *D* *D*¹. The lower coils of the stretcher are fastened in similar manner to the runner wire *C*, and the upper coils of the rib are fastened in similar manner to the notcher *B* on the stick *A*.

Claim.—Making the stretcher and rib of two wires each, forming the loops or eyes of the rib by coils of the exterior wire, and attaching the stretcher to the rib, the rib to the notcher, and the stretcher to the runner, by coils or hooks of the exterior wire, all in the manner and for the purpose substantially as described.

No. 22,142.—EDWARD YOUNG, of Philadelphia, Pa.—*Improvement in Parasols and Umbrellas*.—Patent dated November 23, 1858.—The nature of this invention consists in attaching to the upper end of the lower half of the stick or pole a fixed or stationary tube *c*, said tube being secured by either pin, screw, or cement, said stick penetrating the tube about one-third of its length. In tube *c* is soldered a piece of metal *f*, of the same diameter of the tube, with a hole in the centre, through which a swivel rod works, said rod having on its lower end a knob, or head, which prevents the rod from coming entirely through when it is desired to fold the stick. The upper end of the rod *c* enters the lower part of the joint *b*, where it is securely soldered, said joint being hollow.

Claim.—The combination and arrangement of the stationary tube *c* with the swivel rod *d*, substantially as set forth and for the purposes described.

No. 22,274.—DANIEL S. BAKER, of Providence, R. I.—*Wristband Fastener*.—Patent dated December 14, 1858.—The nature of this invention consists in a metallic spring so constructed and operated as to form a wristband fastener.

Claim.—The spring *E* firmly attached to the front of the fastener in its application to the heel *H*, by means of a shoulder *G* and the end *J*, in such manner as to form a perfect fastener, and easily operated upon, substantially as set forth.

XXII.—MISCELLANEOUS.

No. 19,527.—WILLIAM D. WRIGHT, of Baltimore, Md.—*Burglars' Alarm*.—Patent dated March 2, 1858.—The nature of this invention will be explained by reference to the claim and engravings.

Claim.—Confining a torpedo within a chamber or box between weights or slugs, so that when said box drops and strikes against anything, the force or rebound of the weights shall cause the torpedo to explode, and thus cause an alarm, as set forth.

No. 19,973.—HENRY HERSH, BENJAMIN BAUMAN, and HENRY C. LOCHER, of Lancaster, Pa.—*Burglars' Alarm*.—Patent dated April 13, 1858.—The nature of this invention consists in a combination of horizontal shifting levers with sliding pins operating on wires.

Claim.—The shape and construction of the levers C with their beams I and weights K, together with the sliding pins E, as operating through levers C against the spring G, all in combination as described for the purposes set forth.

No. 21,555.—A. W. DECROW, of Bangor, Me.—*Burglars' Alarm*.—Patent dated September 21, 1858.—This invention consists in arranging a series of slides and tumblers with a bolt and an alarm movement, whereby an alarm will be sounded when an attempt is made to open the till without having recourse to the bolt which locks it, or by actuating in an improper way the slides which move the bolt.

The inventor says: I do not claim broadly an alarm bell attached to or connected by mechanism with a till or drawer, so that an alarm will be sounded when the drawer is opened, for such devices have been previously used.

But I *claim* the slides D E F, tumblers G H I, bar or bolt J, and an alarm formed of the clock movement C and bell D, combined and arranged to operate substantially as and for the purpose set forth.

I further claim the particular manner, as shown, of operating the tumblers G H I from the slides D E F, to wit: by means of the oblique ledges *n*, formed on the slides, and the adjustable pins *p*, which pass through the tumblers, whereby the tumblers are not only actuated, but changes also allowed to be made, so as to require a varying movement of the slides in order to throw back the bolt J.

I also claim connecting the tumbler G and bolt J with a bar L, substantially as shown, to serve as a check or supplemental device to give an alarm, in case an attempt is made to open the drawer by force or otherwise, without tampering with the slides D E F.

No. 21,849.—HENRY R. ROBBINS, of Baltimore, Md.—*Burglars' Alarm*.—Patent dated October 19, 1858.—The nature of this invention consists in the manner of combining and arranging relatively to each other on a door and door frame the alarm movement, cap nipple, exploding spring-hammer, and stop or set pin, whereby, simultaneously with the operation of setting the hammer so as to explode a

cap when the door is opened, the verge of the alarm movement is caused to lock the verge wheel, and thus prevent the running down of the spring, and simultaneously with the opening of the door and the explosion of cap the verge wheel is unlocked, and the alarm movement caused to give a continuous alarm.

Claim.—The manner specified of combining and arranging relatively to each other on a door G and door frame G¹, or other structure, the alarm movement, cap nipple K, exploding spring-hammer H, and stop or set pin J, for the purpose set forth.

No. 22,024.—N. JENSEN, of Washington, D. C.—*Burglars' Alarm.*—Patent dated November 9, 1858.—The alarm consists of a small cannon c, arranged with muzzle pointing downward, and separated from the taper and lighting mechanism by a partition K, so that the gases generated in firing the cannon may not extinguish the taper.

An inclined tube H passes from the vent of the cannon upward through the partition; the upper end is spread out, forming a shield over the taper, and the lower end is disconnected from the vent. A fuse passes from this vent through the tube, and then through an opening in the shield, so that its end will be directly over the flame of the taper.

The inventor says: I do not confine myself to the alarm cannon, or the precise mode of firing it as described, as other alarms, as the bell, may be used, and the mechanism by which they are sounded set in operation by the movement of the socket holding the taper; or instead of the flame of the taper lighting a fuse, a projecting point may extend from the socket, which, when the socket springs back, explodes a cap and fires a cannon.

I *claim*, first, supporting the taper by a spring socket, arranged substantially as described, so that by the movement of the socket when the holding catch is withdrawn the taper is lighted.

Second. On releasing the spring socket holding the taper, I *claim* lighting the taper, and causing the alarm to be sounded by the movement of the socket, substantially as described.

Third. Arranging the alarm and the light in separate compartments in the box, for the purposes set forth.

Fourth. The fuse-tube, constructed and arranged as described, so that the gases escaping from the vent will pass over the flame, and not come in contact with and extinguish the light.

No. 20,852.—GEORGE D. SARGENT, of Boston, Mass., assignor to Himself and THOMAS R. ABBOTT, of Malden, Mass.—*Improved Burglars' Alarm Clock.*—Patent dated July 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination of the lamp and its lighting apparatus with an alarm apparatus, its case, and the door thereof, so as to be operated thereby, or to operate in connexion therewith, substantially as specified.

I also *claim* arranging the lamp and the match-carrier on the door C of the case A, in combination with applying the match-grater to the stationary part or body of the case, substantially as specified.

I also claim the combination for operating the extinguisher G, the same consisting in the match-grater *l*, the spring-lifter *c*, the depresser, the catch H, and the detacher K, the whole being applied and made to operate together substantially as specified.

No. 20,810.—JOHN MATTHEWMAN, of New Haven, Conn.—*Improved Burglars' Alarm Clock*.—Patent dated July 6, 1858.—The object of this invention is to give alarm on the entrance of burglars into a room or building, and to furnish an instantaneous light in the chamber or room in which it is placed, when it is operated either by a person entering the room or building, or by an alarm clock set to awaken the occupants of the room at a given hour.

The inventor says: I do not claim making an alarm which lights a lamp at the same time that it rings an alarm, as I am aware that that has been before effected.

But I *claim*, first, the application to the lamp I of the revolving emery paper cylinder M, operated as described and for the purposes set forth.

Second. The combination of the frame F, having duplicated brackets, with the tube G, match-holder J, and the lamp I, as and for the purposes described.

Third. Connecting the lighting apparatus with an alarm clock so as to operate either by the opening of the door or window of the room, or by the clock, as set forth.

Fourth. The combination of the detaching lever C with the lever B and tongue E and their connecting wires, so that the lighting apparatus and, if desired, the alarms can be operated from a distant point, as described.

No. 19,295.—HORACE L. HERVEY, of Windsor, Conn.—*Improvement in Alarm Locks*.—Patent dated February 9, 1858.—In the engravings A represents the back end of the iron case, T the bottom, R the front end, S the side. The top and one side are represented as being removed so as to show the works, B the bolt for the purpose of holding the draw shut when in use, *f* is the connecting link between the bolt B and the lever E, which works upon a pin passing through it at *h*. This lever is operated by the sliding piece D sliding upon shaft O. The sliding piece D is made to slide back to operate the lever E, by means of any one of the pins L to which it should be placed in connexion with any of the pins L, by turning the slide catch-wheel F in the direction desired. D¹ is a slide piece sliding on shaft O, for operating the alarm alone, and is operated by the pins L pressing against plate F, which presses against it and causes it, in being pressed forward, to disengage the alarm works, and thus sound the alarm.

Claim.—First. The main lock-bolt G, or its equivalent, used for the purposes as set forth and described.

Second. The sliding notch-wheel F, for the purpose set forth and described.

Third. The slide piece D, when used in connexion with sliding spring-knobs L.

Fourth. The sliding spring-knobs L, for the purpose set forth and described.

Fifth. The sliding spring-ratchet C, when used for the purpose set forth and described.

No. 19,926.—HORACE L. HERVEY, of Windsor, Connecticut.—*Alarm Lock*.—Patent dated April 13, 1858.—In using this lock first raise the spring K so that it is clear of the holes in the dial G, then turn the dial around so as to bring the opening in said dial in any desired position. Then look on the dial and see what the number of the hole is that the spring K passes into, then shut the drawer and remember the number. When it is necessary to open the drawer without giving the alarm, the knob of the drawer must be turned so that the index pointer shall stand at the same number upon the outside dial as the spring catch K stands on the inside dial, then pull the knob Q and the piece P will pass the slot in the dial and pass between the pins in the pin-wheel D; then turn the knob either right or left, and the bolt will be drawn so that the drawer can be opened, but if pulled out when the index-hand stands at any other number than that to which it is set, the alarm will be given by means of the dial holder E.

The inventor says: I *claim*, first, the pin wheel D, or its equivalent, constructed and operating as described and for the purpose set forth.

Second. I claim the revolving slotted dial G, either plane, pointed, or corrugated on its face, in combination with the dial holder E, operating as described and for the purposes set forth.

Third. I claim piece P on the rear end of the knob-shaft, and working on the face of the dial G for operating the pin wheel, as described and set forth.

Fourth. I claim the dial M, illuminated or not, and index-hand L, when arranged and operating in connexion with inside dial G.

Fifth. I claim the manner of changing the lock into a common spring lock by means of pin *u*, in the manner set forth.

No. 21,457.—JONATHAN W. WELLS, of Pittsburg, Pa.—*Improvement in Alarm Locks*.—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the use and combination of a bell-catch in the keeper of a lock and a spring-catch in the locking bolt, so arranged as before described, to set the alarm by simply locking the door, and to spring the alarm and ring a bell whenever the door is unlocked, substantially in the manner set forth.

No. 20,333.—ADDISON COREY, of Casstown, Ohio.—*Improvement in Burglars' Alarm Locks*.—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The application to door locks of the insulated knob A, these extra bolts *f* and *g*, levers *p i*, and springs in this arrangement with any lock, and these several galvanic attachments in combination with the lock, as described, or any others substantially the same, and which will produce the intended effect.

No. 21,339.—WILLIAM O. HILLS, of Nottingham, N. H.—*Apparatus for Prison Alarm*.—Patent dated August 31, 1858.—The nature of this invention consists in making the gratings of either a prison door or window tubular or hollow and air-tight, and in combining therewith and in such a manner, an air-pump or an exhaust air-pump, a cylinder and its elastic diaphragm or piston, or their equivalents, and an alarm apparatus of some kind, that should an attempt be made to sever or saw off one of the bars of the grating, the escape of the air through the orifice made, or the inrush of air into the same, shall cause the piston either to be raised or lowered so as to set off or put in operation an alarm apparatus.

Claim.—The tubular or chambered window or door grating, an alarm apparatus, and an air-pump or apparatus as described, or the equivalent therefor, combined so as to operate together, substantially in manner and for the purpose as specified.

No. 19,495.—THOMAS DENHAM and JOSEPH W. BRIGGS, of Cleveland, Ohio.—*Alarm Sash Balance*.—Patent dated March 2, 1858.—When the sash is either raised or lowered, the arms or points K successively strike against the curved arm I, and this gives the bell F a shaking motion, and thus, in opening the window by burglars, the alarm would be given to the inmates of the house.

The inventors say: We are aware that fire alarms and burglar alarms are not new, and we do not claim the separate devices employed by us; but we believe that the particular combination invented by us is new, and a substantial improvement upon all alarms heretofore known.

We *claim* the combination of the alarm with the sash balance and window sash when constructed and arranged substantially as described, for the purpose of alarming the inmates of a house when burglars open the windows, as set forth.

No. 19,196.—ABEL HILDRETH, of Thomaston, Maine.—*Improvement in Tidal Alarms*.—Patent dated January 26, 1858.—In the operation of this improvement one of the chains will be drawn upon and the other slackened by the float, while such float is ascending or descending. That chain which is drawn upon by the float will cause the shaft K to be put in rotation, the slack in the other chain in the mean time being taken up by the rotary movement imparted to the windlass barrel by the descent of the weight R of the said barrel. Each windlass barrel, while being put in revolution by its float-chain, will wind up the chain P of its weight R, so as to provide a power of putting its said barrel in rotation in the opposite direction when its float-chain is next slackened.

The inventor says: I would remark that I am aware that a fog-bell has been sounded by a striking apparatus whose motive power has been obtained by the tidal movements of a float, therefore I do not claim such as my invention.

What I *claim* is my improved tidal alarm, constructed with the two windlass barrels, the ratchets and pawls, the reversing chains and weights, and the two float-chains, arranged and applied in connexion with the striking mechanism, and the float and its stem or rod, so as to operate therewith, substantially as described.

No. 21,719.—JOHN CHILCOTT and JAMES SCRINGEOUR, of Brooklyn, N. Y., assignors to Themselves and GEORGE F. TAYLOR, of said Brooklyn.—*Improvement in the Construction of Aquaria*.—Patent dated October 5, 1858.—The nature of this invention consists in confining the ends of the glass plates of which aquaria are formed between the angular marginal surfaces of metallic plates, between which and the glass plates strips of India rubber or other packing are interposed, the said angular plates and ends of the glass plates being so formed in relation to each other as to form a well or space between the same for the reception of cement, which is poured therein in a heated and liquid state, and allowed to cool and solidify, and thus produce a water-tight joint at the corners of the aquarium.

Claim.—The combination of the dovetailed tenons or tongues C and acute angular plate D sliding over the same, with the outer triangular plate A and ends of the plates of glass B, for forming a space or well between the same for the reception of the cement, and thus enabling a perfect water-tight joint to be formed at the corner of aquaria and other vessels, substantially in the manner and for the purpose set forth.

No. 22,019.—ELIJAH D. DAVIS, of Brooklyn, N. Y.—*Improvement in Aquaria*.—Patent dated November 9, 1858.—A is the bottom, B B the ends, and C the front plate of the aquarium, all constructed in the ordinary manner, except that the breadth of the aquarium is less than usual; D is a plate of ordinary silvered glass; E is a sheet of any suitable material to protect the amalgam and increase the strength of the back; the back E D is much higher than the front C, as represented in the engraving.

The inventor says: I *claim*, first. The mirror D, extending above the level of the front plate C, and arranged in relation thereto, and to the contents of the aquarium, substantially in the manner and for the purposes set forth.

Second. The sustaining of the earthy matter H in removable bottom G, and protecting its upper surface by a hand coating g, for the purposes as set forth.

No. 22,176.—WILLIAM GEE, of New York, N. Y.—*Ashes and Garbage Safe*.—Patent dated November 30, 1858.—The object of this invention is to prevent any access to garbage and ashes by any other than the street scavenger; also to prevent the ashes from being blown about the streets during high winds.

Claim.—The combination in a close case of the two chests F E with rollers I I I I, fig. 2, and arms extending from foot C, fig. 1, attached to the case B B, the top being ornamented. Also, the mode of securing the said chests and case as described, for the purpose set forth.

No. 20,085.—WILLIAM O. PARISEN, of New York, N. Y.—*Metal Awning*.—Patent dated April 27, 1858.—This invention consists in the employment of a series of metal plates so arranged as to lap one over another, each plate being fitted between guides which are attached to the lower end of the plate immediately above it, and the

plates connected to toggles, which, in connexion with arms and a windlass, allow the plates to be raised and folded together or to fall and be distended.

Claim.—The metal plates or strips B so arranged that one may overlap the other, and be kept in proper position by guides *b*, when said plates are used in connexion with toggles C C and arms E E G and a windlass I, arranged so as to raise and lower or fold or unfold the plates, substantially as and for the purpose set forth.

No. 20,256.—ALLAN CUMMINGS, of New York, N. Y.—*Improvement in Ballot-Boxes.*—Patent dated May 18, 1858.—The base of the cover is a plate of glass *a a*, and the sides of it are of perforated metal or wire netting, supported by the angle straps or frame *b b* constituting the corners of the cover. Its truncated apex is sealed over with a sheet metal crown-piece, from which projects a short metallic nozzle or tube C, which communicates with a glass tube C¹, which traverses the entire top vertically, ending just through and below the glass plate *a a* in which it is fixed.

Claim.—The peculiar formed cover or top, combining the glass plate *a*, transparent tube C¹, and the wire screens constituting the sides, all for the purpose and substantially in the manner described.

No. 21,684.—SAMUEL C. JOLLIE, of New York, N. Y.—*Ballot-Box.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The employment of a glass globe in the construction of a ballot-box by mounting the globe as described, so that it shall be simply held in place without concealing the contents, and having a hole at top of sufficient size for the hand, which hole is to be provided with a hinged cover with a hole of the required size to drop the ballots through, substantially as and for the purpose specified.

No. 19,384.—WILLIAM H. SIMPSON, of New York, N. Y.—*Bank Check Cancellor.*—Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the application and use of the cancelling knives *a a a* in combination with an ordinary press for the purpose of cancelling checks and other instruments in writing, substantially as described.

Second. I claim as new and of my own invention the use of the sectors D D D, operating between the knives *a a a* through the disk O, by means of the pins E E E, and in contact with the checks below and the projecting edge of the barrel H above, substantially in the manner and for the purposes set forth.

Third. I claim the combination together of the disk O, the sectors D D D, and pins E E E, with the knives *a a a*, piston C, and barrel H, substantially as set forth.

No. 19,229.—ARTEMAS BAKER, of Templeton, Massachusetts.—*Improved Tool for Manufacturing Splint Baskets.*—Patent dated February

2, 1858.—The object of this invention is to produce a tool with which thin strips of wood, to be used for basket stuff, chair-bottoms, and other purposes, may be cut from a piece of stuff with their surfaces smoothed at one operation. The nature of this invention is further shown by the claim of the inventor.

The inventor says: I am aware that planes have been used having the edge of the iron inclined to the path of the plane, therefore I do not claim this feature alone.

But I *claim* the described tool, consisting essentially of the guide E, the plate C, and the horizontal iron D, with its inclined edge *c*, in connexion with a horizontal recess B and opening *a*, operating in the manner and for the purpose substantially as set forth.

No. 22,371.—TRISTRAM S. LEWIS, of Kendall's Mills, Maine.—*Improved Folding Bench*.—Patent dated December 21, 1858.—A B denote two boards having hinge blocks *a b* applied to them, and so as to project below their abutting ends. These blocks have hinges *c d* screwed to them for the purpose of connecting the two parts A B together and enabling one to be folded down upon the other.

Two sets of legs or supporters C D are also hinged respectively to the boards A B by hinges *e f*, and so as to enable the legs either to be turned down flatwise against the under sides of the board or turned out into right angles therewith.

Claim.—The arrangement and combination of the hinge blocks *a b*, the leg slides E F, and the confining slide G, as applied to the parts A B and their legs C D, connected or hinged together so as to fold up in the manner substantially as specified.

No. 21,444.—CALVIN B. ROGERS, JOHN ROGERS, and WILLIAM C. ROGERS, of Deep River, Connecticut.—*Improvement in Billiard Balls*.—Patent dated September 7, 1858.—This invention consists in constructing ivory billiard balls in sections, or of a series of pieces cemented or otherwise secured together, and disposed or arranged relatively with each other in a novel way in respect to their fibre, whereby several important advantages are obtained.

The inventors say: We do not claim simply the cementing of a series of pieces of ivory together, and turning the same to form a billiard ball, irrespective of the disposition and arrangement of said pieces in respect to each other, as described; for various articles are formed in sections, or of a series of pieces joined together, and turned or otherwise formed into proper shape.

But we *claim* constructing billiard balls of a series of pieces *a a b*, three or more cemented or otherwise secured together, when said pieces are disposed or arranged in relation to each other in respect to their ber or grain as set forth.

No. 21,159.—WILLIAM R. WINANT, of Brooklyn, New York.—*Improvement in Billard Cushions*.—Patent dated August 10, 1858.—This invention relates to a metallic bearing bar against which the cushion sets, which, by its rigidity and inertia, causes the rubber cushion to be

more effective than if it set directly against the wooden cushion rail, and also lessens the sound from the concussion of the ball.

The inventor says: I do not claim a steel facing to a billiard cushion, neither do I claim the attaching said strip or facing to the rubber, by causing said rubber, while melted, to flow against or around said strip of steel; neither do I claim india rubber, or other facing between the steel and the ball, but—

I *claim* the strip *i* of steel or equivalent material inserted into the crease or incision in the India rubber cushion, substantially as and for the purposes specified.

I also claim the metallic bearing bar *c*, between the back of the India rubber and the cushion rail, substantially as and for the purposes set forth.

No. 22,001.—DANIEL D. WINANT, of New York, N. Y., assignor to WILLIAM R. WINANT, of Brooklyn, New York.—*Improved Billiard Table*.—Patent dated November 2, 1858.—*a* is the usual wood frame of the desired size and shape receiving the slab, and these frames are to be adapted to setting together in the usual way on the base of the table; *b* is the slab of glass, the edges of which are ground or dressed to a level at distances of about two inches apart, more or less, around the edges, which bevels are about two inches in width, and adapted to receive the metal clip *c* that is formed to set over the said inclined part of the edge and is screwed down, securely holding the glass to the bed; sufficient number being applied around the edges of the glass for this purpose. The frame is then finished out level by the strip *d*, which also sustains the clip *c*.

f is the cushion rail, and *g* is the screw passing through said rail and into a hole in the block *e*, 3 is the nut dropped into a mortise in said block *e*, and into which the screw *g* is entered.

The inventor says: I *claim*, first, constructing the beds of billiard tables of slabs of glass, substantially as and for the purposes specified.

Second. I claim the clips *c c*, taking the bevelled edges of the slab to retain the same, as described and shown.

Third. I claim the block *e* receiving the screws *g* of the cushion rail, as and for the purposes described.

No. 22,064.—H. W. COLLENDER, of New York, N. Y.—*Improved Billiard Table*.—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that strips of steel have been used in cushions for billiard tables, but in such cases the strips have been secured above the bed of the table to cushion blocks or frames of the usual construction, and therefore I do not wish to be understood as making claim broadly to the use of strips of steel for the cushions of billiard tables.

What I *claim* is the manner, substantially as described, of applying steel springs as cushions to billiard tables by clamping the lower portion thereof to the edge of the bed, as set forth.

And I also claim making the height of the cushions above the bed

of the table adjustable substantially as described, that they may be adapted to balls of different diameter, as set forth.

And I also claim combining with the bed and cushions, applied substantially as described, a flanch or ledge outside of the cushions on a level with the bed, or nearly so, substantially as described, to form a rest for the hand when playing with the ball near the cushion, as set forth.

No. 20,156.—GEORGE W. HOLMAN, of New York, N. Y.—*Improvement in Billiard Table Cushions*.—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim an elastic cushion for billiard tables, but I am not aware that a whalebone facing has ever before been applied to said elastic cushion, whereby the new and useful results specified are attained.

Therefore I *claim* the whalebone facing to the elastic cushions of billiard tables, substantially as and for the purposes specified.

No. 22,263.—JOHN E. CAME, of Boston, Massachusetts, assignor to Himself and JAMES E. CAME, of said Boston.—*Improved Billiard Table Cushion*.—Patent dated December 7, 1858.—The claim and engravings explain the nature of this invention.

Claim.—An improved mode of making a billiard table cushion, viz: of a vulcanized caoutchouc body A, a thin facing *a* of hickory or its equivalent, and a covering thereto of water-proof cloth or material, the whole being applied together and covered with one or more layers of cloth, substantially as described.

No. 19,101.—MICHAEL PHELAN, of New York, N. Y., assignor to H. W. COLLENDER, of New York, N. Y.—*Improvement in Cushions for Billiard Tables*.—Patent dated January 12, 1858.—The claim and engravings explain the nature of this improvement.

The inventor says: I *claim*, first, giving the side and corner pocket iron of billiard tables the form of a semi-circle or regular concave as shown, instead of a form which is partly convex and partly concave, or similar to a cima-reversa ogee, as shown in figure 3, substantially as and for the purposes set forth.

Second. Having the cushions extended with a flat or rectilinear surface along their whole length, or of an equal thickness from pocket to pocket, and terminate at or slightly beyond the corner pockets in flat bevelled ends, and at the side pockets in similar flat bevelled ends, substantially as and for the purposes set forth.

No. 19,074.—H. W. COLLENDER, of New York, N. Y.—*Improvement in Cushions for Billiard Tables*.—Patent dated January 12, 1858.—This invention is described by the claim and engravings.

The inventor says: I do not claim, in this application, the use of two rubbers of different densities, as this is covered by a former patent of mine.

Nor do I claim a steel strip, a whalebone strip, or any other substances which are used with a view of producing a cushion which has an elastic foundation and a comparatively solid face.

But I *claim* uniting the parts employed in forming combination billiard cushions, by placing the harder or more dense and less elastic substances in a mould, and allowing the melted rubber to flow against, around, or into the harder or dense and less elastic substances, or causing the plastic rubber by pressure to unite with the same, substantially as and for the purposes set forth.

No. 22,020.—LEVI DECKER, of Bergen, New Jersey.—*Improved Cushions for Billiard Tables*.—Patent dated November 9, 1858.—The nature of this invention is to employ, in the construction of billiard-table cushions, India rubber, in a stretched and unstretched state, combined together, for the purpose of making the cushions of such flexibility or softness as to offer on their surface but little or no resisting force.

Claim.—The combination in a billiard-table cushion of stretched and unstretched rubber, for the purpose described.

No. 19,755.—CHARLES CROLEY, of Cincinnati, Ohio.—*Folding Billiard Table*.—Patent dated March 30, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The arrangement of certain devices for folding and moving the frame of the table, and swinging the bed of the table, as represented, consisting of the pieces C C, hinges *d* and *ff*, the levers P P, leg pieces *m* and rollers *n*, and the links *g g* and rollers J, all connected and arranged as represented, and for the purpose specified.

No. 20,548.—JOHN E. CAME and SIMEON HAVENS, of Boston, Mass.—*Improved Pocket Supporter for Billiard Tables*.—Patent dated June 15, 1858.—The claim and engravings will explain the nature of the invention.

The inventors say: We are aware that it is not new to apply a cushion to a surface to protect such from injury; therefore we do not claim such.

Nor do we claim the application of elastic cushions to the guards of a billiard table.

But we *claim* the arrangement of a strip of vulcanized rubber *b*, or its equivalent, along the inner edge of the pocket supporter, and between the same and its leather covering, the same being for the object and purposes as set forth.

No. 19,546.—CHARLES CROLEY, of Cincinnati, Ohio.—*Improvement in Billiard-Table Tops or Beds*.—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Constructing the bed of billiard tables with the grain of the wood at right angles with the surface of the bed, and confining the bed to the frame *a* of the table with the cross-bars *c c c*, screws *fff*, and blocks of wood *d d d*, arranged as represented, for the purpose of allowing the bed B B to expand and contract without becoming untrue, as before mentioned, and for other purposes specified in the foregoing specification.

No. 22,186.—JOHN L. MASON, of New York, N. Y.—*Improvement in Screw-Neck Bottles*.—Patent dated November 30, 1858.—The engraving A represents the top or nozzle of the bottle. The screw thread terminates before reaching the top or bottom of the neck.

The inventor says: I *claim* a screw neck or nozzle of a jar or bottle in combination with a groove separating the head from the shoulder of the bottle or jar, as described.

I also claim a screw on the exterior of the neck of a bottle or jar in which the neck extends above the screw thread and the thread vanishes into the neck of the bottle or jar, substantially as described.

No. 19,323.—JEREMIAH B. WILLIAMS, of New York, N. Y.—*Improved Bottle Stopper*.—Patent dated February 9, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

Claim.—I am aware that a ball valve is not new, and I lay no claim to it in its general application.

But I *claim* a bottle stopper composed of a metal tube having proper flanges, one end of which is covered with cork and its top furnished with a ball valve which moves between guides attached to the tube or its flange, the whole being made as set forth.

No. 22,370.—THOMAS LEWIS, of Malden, Massachusetts.—*Improvement in Bottle Stoppers*.—Patent dated December 21, 1858.—In this improved stopper the ball and its seat are placed within a chamber not only with a set of three or more guide ribs, but with a separate screw cap provided with retaining bars or their equivalents and a discharging mouth or tube. By unscrewing and removing the cap from the main tube the ball can easily be taken out of the latter and cleansed.

Claim.—My improved ball-valve stopper, as made, with the separate cap C, provided with a discharging tubular mouth *i* and crossed bars *g h*, or equivalents, for detaining the ball as described, and connected with the main tube or body by a screw or its equivalent.

No. 20,778.—MUNSON C. CRONK, of Auburn, New York.—*Improvement in Stoppers for Bottles*.—Patent dated July 6, 1858.—The nature of this invention consists in enlarging the mouth of the neck of the bottle, and attaching thereto a metallic tube B of the form of a frustum of a cone, having a cylindrical tube A cast concentrically around its upper portion, on which is screwed a cap G in such a manner as to enable a part or the whole of the effervescent liquid to escape from a tube F in the side of the cylindrical tube by partially unscrewing the cap.

Claim.—Attaching to the necks of bottles, and within a tapering space B, a tapering or flaring tube A, having a concentric cylindrical tube E cast or secured around the same, with a cap G screwed on its top, and an outlet tube F attached to its sides, in the manner and for the purpose described.

No. 20,843.—JAMES EWING, of New York, N. Y., assignor to FREDERICK V. RUSHTON, of New York aforesaid.—*Improved Stopper for Bottles*.—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—An improvement in bottle stoppers for bottles containing gaseous liquids confined under high pressure, is the arrangement of the tubular stem valve B within the chest A, with the cork tube E; the whole being constructed and operated substantially as set forth.

No. 20,520.—WILLIAM J. STEVENSON, of New York, N. Y.—*Improvement in Metallic Caps for Bottles, Jars, &c.*—Patent dated June 8, 1858.—The nature of this invention will be understood by the claim and engravings.

Claim.—The construction of the cap B with the band *d*, fitted and united to the exterior of a rim formed upon its head, and with a lap *f*, which is left unsoldered or simply tacked, so as to be capable of being laid hold of, to strip the band from the exterior of the head, substantially as described, when it is desired to open the bottle or vessel.

No. 20,113.—WILLIAM B. WHITE and JOHN A. WHITFORD, of Saratoga Springs, New York.—*Machine for Washing Bottles*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim generally the washing of bottles by causing them to rotate against stationary inside or outside brushes, as that device has been used before and is well known.

Nor do we claim any particular form or arrangement of brushes.

But we *claim*, first, the series of devices described, including the pulleys D and D¹, the clutches E E¹, the collar F, the radial arms G G, the springs H H, and the grippers I I, with the parts connected, constructed, and operating substantially as set forth, whereby the bottle is rotated in one direction, while the chain or brush or other device for cleansing the inside of the bottle is rotated in the other, for the purposes set forth.

Second. We also claim the use of a cam (like that of a pocket-knife blade) on the hinged end of the rod I, whereby the same tends to remain in a line continuous with the main spindle, or at right angles or any other given angle thereto.

Third. We also claim the use of the spring N on the bar *m* so as to adapt the same to different depths of bottles.

No. 20,240.—GEORGE K. FARRINGTON and SAMUEL BROWN, jr., of Xenia, Ohio, assignors to Themselves and DAVID B. TIFFANY, of said Xenia.—*Improvement in Candy Machines*.—Patent dated May 11, 1858.—The operation of this machine is as follows: The kettle being adjusted in its proper place, and filled with melted sugar, the handle A² is turned forward, which moves the pitman K L L to which the knife M M N N is attached downwards, and when the knife begins to descend the long pitman P P commences ascending, the hook at the lower end catches the wheel R, and as the pitman P P ascends the

roller S is revolved, and the endless apron is drawn out a sufficient distance to remove the last row of "mint drops" cut off from under the succeeding drop.

The inventors say: We do not claim the endless apron, although we do not know of its ever being used in the manner described.

What we *claim* is the construction of the machine, the construction of the sugar kettle and spouts as described, the method described of cutting off all the drops with one stroke of the knife working vertically, in connexion with the adjustable pitman, or any other means substantially the same, producing the same effect.

No. 21,384.—T. R. TIMBY, of Medina, N. Y.—*Improved Travelling Casket*.—Patent dated August 31, 1858.—The nature of this invention consists in attaching the stiff slides of the travelling casket to the intermediate metal or other framing by means of rubber or other springs, so that the flexible carpeting or other material of which the casket is covered shall be contracted, or may be extended at the ends and edges of the casket, and thus made to confine securely in place the goods within the casket, or afford greater space for the introduction of goods into the casket.

Claim.—Attaching the stiff sides *c c* of the travelling casket to the intermediate metal or other framing *d d*, by means of rubber or other springs B B, substantially as and for the purposes set forth.

No. 21,677.—EDMUND HOOLE, of Mount Vernon, N. Y.—*Improvement in Baggage Checks*.—Patent dated October 5, 1858.—This invention consists in stamping, engraving, or otherwise marking both sides of the metal plate which forms the check with the names of stations on the line of the route of the conveyance for which the checks are intended, and so attaching or arranging the strap of the plate or check relatively with it that, by properly adjusting the strap, either side of the check may be made the face or obverse side as occasion may require, and consequently one plate or check may be made to answer the purpose of two ordinary checks.

Claim.—Stamping, engraving, or otherwise marking on the plate or check A the names of two different stations, one at each side, when said plate thus stamped or engraved is used in connexion with a strap B attached to the plate, and rendered capable of being adjusted as shown, for the purpose specified.

No. 19,717.—HENRICH REIMANN, of Hartford, Conn.—*Improvement in Cigar-Lighting Cinders*.—Patent dated March 23, 1858.—The nature of this invention consists of various ingredients made into a small cake or pellet. The ingredients are as follows: 12 parts pulverized charcoal, 6 parts nitre, 2 of wheat flour; this preparation is used for making the body part of the cinder for lighting. The second preparation used to impregnate the top part of the body, which causes it to instantly ignite, is made as follows: 4 parts phosphorus, 6 of calcined plaster, 6 of gum arabic, and two of gunpowder.

Claim.—The cigar lighting cinders, compounded and formed as described and for the purpose set forth.

No. 19,580.—HENRICH REINMANN, of Hartford, Conn.—*Apparatus for Containing and Igniting Cigar-Lighting Cinders*.—Patent dated March 9, 1858.—The box is held in the hand with the round grated end G downwards. The thumb piece E is then drawn back, which causes the circular sliding part or passage C to revolve, and open a space to receive one cinder in the end of the slide. The thumb piece E is then released, and the return of the circular slide C, caused by the re-action of the coiled spring F, suddenly conveys the cinder into the grated cavity G, which, in its quick passage under the toothed edge friction-piece, becomes ignited by the teeth passing through the phosphorus dot on the centre of the cinder face. The cinder flames up for a few seconds, then dies out, and leaves the body of the cinder a live bright coal.

Claim.—The combination of the conveyor *c* and ring *b* with the toothed ring *a*, constructed and operated substantially in the manner and for the purpose set forth.

No. 21,558.—HENRY DURELL, of Morrisania, N. Y.—*Improvement in Cigar Wrappers*.—Patent dated September 21, 1858.—The object of this invention is to convert the stalks, stems, or other parts of the tobacco plant, now comparatively useless, into an artificial leaf, which, while it shall be composed only of the same constituent parts or elements as the natural tobacco leaf, shall yet be more valuable and useful in its application to the various purposes to which the tobacco leaf may be applied.

The inventor says: I do not claim converting the fibrous or ligneous parts of the tobacco plant into sheets or leaves.

But I *claim* the removal of the coloring and flavor of the plant by means described, then reducing to pulp and thence to paper the fibrous or woody parts of the plant in any known way, and then re-charging said paper with the solution or volatile matters previously removed therefrom, in order to prepare said paper to be used as wrappers for cigars.

No. 19,746.—THOMAS BLANCHARD, of Boston, Mass.—*Improvement in Cigars*.—Patent dated March 30, 1858.—The paper is first cut in pieces of a suitable size, fig. 1, and the edge is turned over by means of two wires *a b*. The fine tobacco is then applied to the paper, and the whole is wrapped up; the edge at *f* being parted, the wires are then withdrawn, and the ends are rolled up to prevent the escape of the tobacco.

Claim.—The described cigaretta or paper cigar, made in the manner substantially as set forth.

No. 19,341.—LOUIS BEAUCHÉ, of Paris, France.—*Machine for making Cigars*.—Patent dated February 16, 1858.—The claim and illustrations will explain the nature of this invention.

The inventor says: I *claim* forming the core of cigars, and covering the same with tobacco leaves, so as to acquire a perfect shape, by means of the apparatus described, consisting mainly of endless bands made of India rubber, or any other suitable yielding substance, revolving

in contrary directions, so as to gather the tobacco for forming the core under required pressure.

I also claim, at or near the ends of the covering bands, shaping-dies, which are so constructed as to allow the leaves to be fed in and between them, to give a perfect form to the conical end of the cigar.

I also claim the arrangement described of knives on each of the frames supporting the band rollers.

I also claim the general arrangement of parts constituting a cigar-making machine, substantially as specified.

No. 21,704.—JAMES S. SUTER and GEORGE M. PALMER, of Baltimore, Md.—*Improvement in Wrappers for Cigars*.—Patent dated October 5, 1858.—The nature of this invention consists in an arrangement for agitating, separating, and conveying the liquor from one tan-vat to another.

The inventors say: Being aware that the stems and refuse tobacco have been before used for making a material similar to paper and for like purposes, by John Adcock, in England, we desire to disclaim the use of said stems and refuse tobacco.

But we *claim* taking pearl ash, powdered sal ammoniac, lobelia or Indian tobacco, oil of anise seed, oil of caraway, alcohol, grass, rope, rum, cascarilla bark, opium, sumac, and stems or refuse tobacco, and converting it into sheets for wrapping woollen goods to prevent moths from eating them, lining for cases for the same, covering for carpets, and wrappers for cigars or tobacco.

No. 19,503.—DANIEL HOOKER and SOLOMON E. HOOKER, of West Poultney, Vermont.—*Improvement in Coffins*.—Patent dated March 2, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventors say: We *claim* the employment of a skeleton frame composed of strips of angular metal extending along the angles of the coffin and firmly secured together, so as to furnish the main support of the coffin, and at the same time a proper means of attaching the slab or stone, and of securing tight joints, as specified.

We also claim the combination of this frame with a thin slab of slate or other stone, whereby a coffin of superior strength, durability, and lightness is produced.

No. 20,095.—ISAAC C. SHULER, of Amsterdam, N. Y.—*Improvement in Constructing Coffins*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the self-securing frame H, with the catch on the false head-piece B, operated by the spring C, as a cover over the joints after soldering in the top of a metal coffin.

I claim, second, the arrangement of placing inside of a metal coffin, near the upper edge of the walls, the iron frame E, or its equivalent, fastening it securely, for the purpose of shaping permanently the upper part of the body of the coffin, exactly like the bealed frame D at the bottom, and as a means of securing a close joint on the top

for soldering the same to the walls of the coffin. Also for the purpose of supporting the top on a line sunk somewhat below the upper edge, sufficient to leave an extension or projection of the metal all around the upper edge of the walls above the coffin top, when fixed in its proper place. This extension of the metal, which shows itself above the frame E, is made expressly for the purpose of soldering on the coffin top without using the lap or lock joint.

I claim, third, the false head-piece B and the spring C or its equivalent.

No. 20,770.—ROBERT P. ABERNETHY, of Cincinnati, Ohio, assignor to UNION CORK MANUFACTURING COMPANY, of Cincinnati aforesaid.—*Improved Machine for Cutting Corks*.—Patent dated July 6, 1858.—Journaled horizontally to the frame *a* (so as to move in a vertical plane) is an arm *d*, having a rectangular notched head *e* adapted to hold the square piece or "blank" out of which a bottle cork is made. At one end of the notch is a small yielding strip of metal *f*, of such shape as when advanced to remain clear of the stationary mandrel. A lip *g*, which curves outward and downward from the head *e*, receives the finished cork from the mandrels *r s*, and conducts it into the discharging spout *g*². An intermediate vibratory motion is given to the arm *d* by means of a suitable cam F, which derives its motion from the same mechanism which operates the mandrels. Four counter shafts *l* are so geared together as to revolve four times at each revolution of the cutter wheel *j*.

The inventor says: I *claim*, first, in this connexion, the automatic feed-rest *d e f g*, substantially as set forth.

Second. Imparting to the mandrels of a cork-cutting machine a compound rotary and vibratory movement, by means and for the purposes substantially as set forth.

No. 20,771.—ROBERT P. ABERNETHY and MAHLON M. WOMBAUGH, of Cincinnati, Ohio.—*Improved Machine for Cutting Corks*.—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We *claim*, first, the rotary cutter head, having alternate blades and spaces, in combination with the automatic mandrels, to admit of the removal of the finished cork; and clamping the fresh blank without removing either cutter or mandrels *r s*, to admit of the removal of the finished cork; and clamping the fresh blank without removing either cutter or mandrel.

Second. In combination with the intermittent cutting disk and mandrels, substantially as described, we claim the described arrangement of half-wheel cam movement and the accessories, for the purposes set forth.

Third. We claim in this connexion the feed apparatus, consisting of the hopper *y*, notched piston, and cam movement, with their accessories, substantially as described.

Fourth. In the described connexion with the feed piston and mandrels, we claim the spring pressure plate or finger, operated substantially as and for the purpose set forth.

Fifth. In the described combination with the feed piston α and mandrels, we claim the discharging spring or strip, substantially as set forth.

No. 21,944.—EDWARD CONROY, of Boston, Mass.—*Improved Machine for Cutting Corks*.—Patent dated November 2, 1858.—The nature of this invention and improvement consists in the employment of certain appliances, in connexion with the rotary cutters and sharpening device described in the cork-cutting machine of this inventor, patented April 20, 1858, as will enable the former to vore-cut the corks, the latter to be more simply operated, and the corks to be automatically and in a more simple and correct manner brought and embraced between revolving heads while being cut and discharged therefrom, than heretofore.

The inventor says: I *claim*, first, the combination and arrangement of the sliding plate V, sliding plate and spring or pointers W in front of the same, vibrating angular lever Y, and cams a a on inclined revolving shaft P², partly cogged wheel R, and spring arbor or shaft T, for placing and securing the rough pieces of corks to be cut between the pointed end of the said arbor or shaft T and correspondingly pointed revolving hub U¹, the whole being constructed and operating substantially as described.

Second. I claim the combination of the cam K, secured to the top of the frame A and curved spring J, with the sharpening device G and rotating cutter-plate H, for sharpening the cutters after they have cut the cork and are in the act of being again withdrawn and moved toward the arbor or shaft T, as described.

Third. I also claim the combination of the cam o^3 and friction roller b with the sliding frame B, as set forth.

No. 19,109.—LEONHARDT WITTING, of Philadelphia, Pa.—*Improved Creeper*.—Patent dated January 12, 1858.—This invention consists of a metal socket B, furnished with spikes at the bottom, and adapted to the form of the heel of a boot or shoe, the said socket being furnished in front with spring lips d , and at the back with a spring catch E, so that the whole constitutes a secure and efficient creeper.

Claim.—The spiked socket B, with its spring lips d , in combination with the spring catch E, the whole being arranged substantially as set forth and for the purpose specified.

No. 21,955.—LOUIS GROSHOLZ, of Philadelphia, Pa.—*Improved Drinking Cup*.—Patent dated November 2, 1858.—This invention consists in combining a small cup with one or more rings, both cup and rings having sides inclined at precisely the same angle, and the whole being so arranged that when extended they shall form a watertight drinking cup of ordinary capacity, and when depressed shall occupy no more space than the uppermost ring, the whole forming a portable cup, which can be carried in the pocket without any inconvenience.

Claim.—The inventor says: I do not desire to confine myself to the employment of three sections, inasmuch as two might be used for a

small sized cup, and for those of a larger size four or five sections might be advantageously employed.

But I claim as a new and improved article of manufacture a drinking cup formed of two or more sections with inclined sides, said sections being adapted to and detachable from each other, substantially as set forth and for the purpose specified.

No. 19,791.—CHARLES PERLEY, of New York, N. Y.—*Improved Desk Seats for Schools*.—Patent dated March 30, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—Supporting the seat by a bracket *h* extending from the pedestal or column of the desk, whether said seat be a permanent fixture or fitted to swing around, substantially as and for the purposes specified; whereby the floor is unobstructed by the separate legs or pedestals of the seat, and greater facility afforded for clearing the room, and more space given for the feet of the scholars.

No. 20,487.—JOSEPH H. GRIMSLEY and PERRY J. ANKNEY, of New Lexington, Ohio.—*Improved Writing Desk*.—Patent dated June 8, 1858.—The nature of this invention consists in providing in the inside of the upper part or body of the table or desk two movable resting boards *F F*, which are raised and lowered by cords and pulleys, on which boards the book is placed while being written upon. The object of raising and lowering is, that the book may be kept perfectly level while the writer is writing thereon.

Claim.—The application to, or construction of, writing tables or desks, in the manner substantially as set forth and described.

No. 21,249.—JOHN W. FIESTER, of New Lexington, Ohio.—*Improved Writing Desk*.—Patent dated August 24, 1858.—In the operation of this invention the record is placed at the lower end of the desk, and the hand board *C* turned over it, or it may be turned out from the desk. This board is bevelled in front to a feather edge, and is attached to the desk with its thick edge by means of hinges; when it is thus arranged and turned back, the edge of the board acts as a fulcrum for its leverage and holds it in its place, the cord *l* is drawn down to the book and is attached to it, the copy is then placed in the slot in the roller *j*, passing through the opening under spring *n*, and as the greater part of the weight of the book will be on the right side of the desk, it will press more heavily on the right side of the scales and at the same time raise up the left side, thus making the plane of both sides of the book equal or even, and this equality of the plane or surface of the book is kept up at all times, however the weight of the sides of the book may vary, whether on the right or left hand.

Claim.—The arrangement of rollers *A A* with coiled springs attached, with the horizontal cords *C* on pulley *z*, the canvas arranged on the rollers and scales, and the hand board *c* hinged to the desk, as and for the purposes set forth.

No. 20,859.—JEREMY W. BLISS, of Hartford, Connecticut.—*Improvement in Door Plates*.—Patent dated July 13, 1858.—This improvement consists in arranging the door plate B with an opening and bell R, bell pull, &c., in such a manner that it may become a permanent fixture to a house, and answer the three-fold purpose of a door-plate, door bell, and letter and paper receiver.

Claim.—The perforated door plate A B and bell arrangement I J K P N O M, constructed and arranged to secure the three-fold object, substantially in the manner and for the purpose as described.

No. 20,100.—HENRY R. TAYLOR, of Roxbury, Massachusetts.—*Improved Drawer for Closets, Bureaus, &c.*—Patent dated April 27, 1858.—In moving this improved drawer, as the drawer B is pulled out, the metal boxes *e* strike against the shoulders *h*, and draw out the sliding piece C. The tongue *b*, running in the groove *a*, prevents any lateral vibration of the pieces C, and they, in turn, keep the drawer straight. When the drawer is out it is effectually supported by the rollers *f*, resting on the pieces C; these being drawn out but part way supported in the bureau between the bottom E, over which the drawer slides, and the cleats D above them.

Claim.—The sliding pieces C, or their equivalents, connected with the drawer, and operating in the manner substantially as set forth.

No. 20,703.—ADAM EMEIGH, of Jerusalem, New York.—*Apparatus for Skinning Eels*.—Patent dated June 29, 1858.—This invention consists in the employment or use of a holder or clamp C and decapitating knife, used in connexion with a griper T and ripping-knife K, or their equivalents, whereby the skinning of eels may be performed very expeditiously.

Claim.—The holder or clamp formed of the frame C, connected with a spring treadle E, and provided with spurs *d d*, and the knife G, and lever blade F, arranged relatively with each other as shown, the above parts being fitted in or attached to a frame A, and used in connexion with a griper T and ripping-knife K, or their equivalents, substantially as and for the purpose set forth.

No. 21,282.—OWEN SWEENEY, of Brooklyn, New York.—*Fire Escape*.—Patent dated August 24, 1858.—This invention consists in the use of a drum, having a rope and basket or car attached, a brake and platform, and compensating spring, combined and arranged, whereby a person can descend to the ground from a window in the upper stories of a building in safety.

The inventor says: I *claim* the drum D, with rope E attached, brake F, and compensating spring J, and vibrating or tilting platform board C, placed within the box A, combined and arranged to operate as and for the purposes set forth.

I further claim the particular arrangement of the rack-bar H, pall I, platform or board C, and strap or brake F, as shown, whereby the person that descends solely by its own gravity releases the drum from the brake, and causes the car or basket to ascend, and also by the

same means regulates for his descent the pressure of the brake on the drum, as described.

No. 20,752.—JOSEPH WELTE, of Buffalo, New York.—*Improvement in Fire Ladders*.—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the ladders described, nor their combination, nor the extension thereof by any means. Neither do I claim hinging the ladders to the carriage.

I *claim* the combination of the right angled levers B and B¹ (hinged to the carriage) with the frame B and windlass E, for the purpose of elevating the ladders and lowering the foot thereby easily to the ground, and for detaching the same from the carriage, substantially as set forth.

I also claim the combination of the right angled frame *h h*, including the wheels *i i*, with the topmost ladder, for the purposes as set forth.

No. 20,961.—WILLIAM STAEHLEN, of Williamsburg, New York.—*Improvement in Firemens' Trumpets*.—Patent dated July 20, 1858.—This invention consists in constructing the body of the trumpet and also the flaring terminus or end piece each of paraboloidal form, and placed in such relation to each other and to the mouth piece that the sound will not only be projected from the flaring end piece in parallel lines of vibration, thereby sending the sound a greater distance than when it is allowed to diverge, but the instrument is also rendered available as an ear trumpet, thereby containing two instruments in one.

The inventor says: I am aware that paraboloidal end pieces have been applied to trumpets, and I do not claim such device; but I am not aware that an end piece and body each of paraboloidal form have been previously used in the construction of speaking-trumpets.

I *claim* the end piece C and body B, constructed in paraboloidal form, and arranged relatively with each other and the mouth-piece A substantially as and for the purpose set forth.

No. 20,343.—JACOB GARL, of Suffield, Ohio.—*Apparatus for Catching Fish*.—Patent dated May 25, 1858.—The nature of this invention consists of a toothed jaw, which, upon the fish touching a sliding cross-bar, closes instantly upon the fish, which is held firmly between the toothed jaws.

Claim.—The sliding trigger E, the notch B, key F, nut *g*, as applied to a machine for catching fish, and described in my specification for that purpose.

No. 20,725.—BENJAMIN MERRITT, jr., of Charlestown, Mass.—*Net for Catching Fish at Sea*.—Patent dated June 29, 1858.—Extended in opposite directions are two arms *d d*. From each strut, near the heel or inner end, a belt *e* projects, which has the heel of a boom *f* connected to it by a rope or connexion *g* of such nature as will allow the booms

to be moved, either upward, downward, or laterally. Each of the booms *ff* has two sets of hauling tackle: *h h* and *i i*.

The inventor says: I *claim* combining a seine or net with the hull of a navigable vessel, substantially in the manner, and so as to operate therewith, as described.

I also claim the mode of spreading the ends and outer edge of the net, viz: by the booms *ff*, the sprits *dd*, and the hauling tackles *h h*, arranged and applied together and to the vessel as specified.

I also claim the combination of the brailing line *l* and the lifting tackles *ii* and *m*, with the net, its booms, and the masts.

No. 20,309.—J. C. UNDERWOOD and THOMAS J. BARGIS, of Richmond, Indiana.—*Improvement in Tips for Fishing Rods*.—Patent dated May 18, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Attaching the pulley *d* to the top A of the rod, through the medium of the socket B, or its equivalent, so arranged that the pulley *d* is prevented from turning entirely around the tip, and the line thereby prevented from winding around the rod, and at the same time the pulley allowed to adjust itself, so that the plane of its rotation may at all times be made to coincide with that of the line *e*, substantially as and for the purpose set forth.

No. 20,539.—JOHN G. BAKER, of New Brunswick, N. J.—*Improved Machine for Cutting Glaziers' Pins*.—Patent dated June 15, 1858.—As the drum or cylinder M rotates, the cutter Q cuts points from the edge of the plate U, which moves with such a speed relatively with the rotation of the drum that intermediate portions α^x are left of the precise size and shape as the points cut from the plate by the cutter *c*. The parts α^x are cut from the plate by the cutter R.

Claim.—The rotating drum M, provided with the cutters Q R, two or more, in combination with the stationary die or bolster S, provided with the recesses *f g* and the feed rollers *o*, arranged to operate substantially as and for the purposes set forth.

No. 19,205.—HORATIO POLLARD, of Boston, Mass.—*Improved Heel Spur to Prevent Slipping on Ice*.—Patent dated January 26, 1858.—In the engravings *a a* represents a stud or spur with a sharpened point, and having a male screw thread cut on its surface; *b b* is a socket fastened into a heel *c c* by a screw thread *d*, having a female screw thread fitting into its inner circumference, into which the male screw of the spur *a a* fits. By turning the spur by means of a key, it can be moved up into the heel or made to project therefrom.

Claim.—The combination of the screw socket and screw stud or spur, as described, and for the purpose specified.

No. 19,761.—JOHN J. ESHLEMAN, of Lancaster, Pa.—*Self-Loosening Horse and Cattle Tie*.—Patent dated March 30, 1858.—Near the centre of the casing A is the guard G, through which is admitted the upper section D of the bolt, as far as the shoulder O. The bolt B consists of two parts, detached and fitted together when in working operation by the scarf joint H. F is the spiral spring which rests on the guard G,

and is held in its place by the concave and nut E, which screws on the top of section B of the bolt B.

The inventor says: I *claim* the bolt B in two sections, connected by the sliding scarf joint H, for the purpose of instantly loosening the horse, as set forth.

I also claim the devices of the bolt B, spiral spring F, and casing A; all in combination operating together, substantially in manner and for the purposes set forth.

No. 22,210.—HIRAM VAN STEENBURGH and JOEL EGNOR, of Catskill, New York.—*Improvement in Apparatus for Hoisting and Storing Ice*.—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim* the method of transporting ice upon inclined planes by carrying the ice up between parallel endless chains, having bars extended between said chains to hold the ice and propel the same; the planes being placed with openings for the passage of the ice to successive stories of the ice houses, and the propelling bars being so arranged that the descending bars shall not interfere with the free passage of the ice through the openings in the plane.

We further claim the use of the hatches described to close the openings in the plane, in order to permit the ice to pass beyond a lower to an upper story of the ice house, the whole apparatus substantially as described and set forth in the above specification.

No. 19,195.—R. W. HEYWOOD, of Baltimore, Maryland.—*Improvement in Machines for Planing away Ice in Rivers*.—Patent dated January 26, 1858.—The nature of this invention consists in the bevel-edged plane-irons connected with the series of grooving bevelled cutters *c c*, for the purpose of grooving and planing away ice in navigable waters; also in an arrangement of parts whereby the shaft carrying the grooving cutters and planing irons can be adjusted without affecting the driving gear, so as not to come into operation at all, or to suit different thicknesses of ice.

The inventor says: I *claim*, first, the bevel-edged plane-irons E, connected with the series of grooving bevelled cutters C C, for the purpose of grooving and planing away ice on navigable waters, substantially as set forth.

Second. The peculiar arrangement consisting of the adjustable standards D D D¹, pulleys *i j*, endless chain I, pin, pinions *f f*, crank-shaft E, in combination with the ice-grooving and planing mechanism, substantially as and for the purposes set forth.

No. 20,322.—WILLIAM G. BROWER, of Staatsburgh, New York.—*Machine for Hoisting Ice*.—Patent dated May 25, 1858.—This invention consists in the employment of a vertically sliding receptacle or box D, provided with a door or flap *c* connected with a windlass H, which is arranged with a clutch J and spring-catch *e*; the several parts being so combined and arranged that by the rotation of the driving-shaft I the receptacle or box will be elevated, the ice discharged therefrom, the box allowed to descend and again elevated, and so on the several parts working automatically by a continuous application of the driving power.

Claim.—The receptacle or box D, connected with the drum or windlass H by the chain or rope G, the drum or windlass being fitted loosely on the driving shaft I, and connected with and detached from it at the proper time by means of the clutch J, actuated through the medium of the sliding bars K N, spring L, and lever catches O O, the whole being arranged substantially as shown, so that the several parts will operate automatically by a continuous motion of the driving shaft and for the purpose set forth.

No. 22,403.—JOHN L. ROWE, of New York, N. Y., assignor to FREDERICK STEVENS, of said New York.—*Improved Ice Pick.*—Patent dated December 21, 1858.—The nature of this invention consists in constructing an instrument which shall enable the party using it to combine in one instrument the advantages usually obtained by two, namely, the use of a common ice pick and a hammer or mallet.

Claim.—The spiral spring D, in combination with the handle A, rod F, and point B, as arranged, substantially as and for the purpose specified.

No. 19,376.—CHARLES MONNIN, of Buffalo, New York.—*Improved Ice Spur.*—Patent dated February 16, 1858.—This invention consists in attaching to the heel of a boot or shoe a metallic strip or plate D bent in a bow form, serrated at one edge c, which will prevent the wearer from slipping when walking on ice. It is so arranged that when it is not required it can be turned over the heel, and can be removed in summer.

Claim.—The curved or bow-shaped metallic plate D, attached to the heel B of the boot or shoe, and constructed and arranged substantially as and for the purpose set forth.

No. 22,390.—WILLIAM W. WADE and FRANCIS T. CORDIS, of Long Meadow, Massachusetts.—*Labels for Trees, &c.*—Patent dated December 21, 1858.—Figures 6 and 7 show the mode of constructing the tag or label, with a metallic plate back F and a face of mica, while between these is contained the paper, or other substance, on which the descriptive matter is written or printed. "C" is the ring by which the tag is hung or tied to the tree or shrub, or, when used to indicate the place where seeds are planted, to the stake "D."

Claim.—The combination of a metallic rim or back with paper, or other suitable substance, on which is written or printed the name of a tree, shrub, plant, or seed, and a plate or plates of mica and a metallic ring, in either of the modes in the specification described, as a tag or label for designating and distinguishing the varieties of trees, shrubs, plants, and seeds, in orchards, nurseries, and gardens, as described.

No. 19,578.—ALBERT POTTS, of Philadelphia, Pennsylvania.—*Mode of Attaching Metallic Letter-Boxes to Lamp Posts.*—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—Combination of the letter boxes and lamp posts, by making the letter boxes (metallic) with a perforation or socket through the centre or side thereof, as shown at E and F, so as to slide over and

embrace the shaft of the ordinary cast iron lamp post, as above described and for the purposes mentioned.

No. 21,716.—ALGERNON S. WRIGHT, of Lawrence, Massachusetts.—*Machine for Stamping Trade-marks on Cloth, &c.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the arrangement and combination of the reciprocating carriage or table, the stamping mechanism, the inking apron, and its vat or trough, as made to operate together substantially in manner and for the purpose as described.

I also claim the combination of the stamp connexion bar and the spring, as applied to the lifter rod, and the stamps, as specified.

I also claim the peculiar means or combination for operating the stamps, viz: a mechanism for lowering them gradually toward the apron; a mechanism for allowing the stamp to fall by the force of gravity upon or toward the table; mechanism for elevating the stamp off the table as well as off the apron, as described, and mechanism for maintaining the stamp at rest during each movement of the bed or carriage, the whole being in one cam, as applied to a lifter bar, as described.

No. 21,794.—E. G. BYAM, of Boston, Massachusetts, and B. E. PARKHURST, of Brunswick, Maine, assignors to EZEKIEL BYAM, of Charlestown, Massachusetts, S. A. CARLTON and E. G. BYAM, of Boston, Massachusetts.—*Improved Rack for Holding Comb Match-Cards.*—Patent dated October 12, 1858.—The object of this invention is to form an improved rack for holding match cards for the purpose of dipping them in the sulphur, or other preparations, and igniting substance or material.

The inventors say: We are aware that racks have been used in which match cards are fitted and secured preparatory to dipping them, a single frame being used, having one compartment or cell, and cards secured in the frame by wedges.

But we are not aware that springs B have been employed for retaining each individual card, as it is placed in its compartment.

We do not claim, therefore, broadly, the employment of a frame to receive the match cards.

But we *claim* the arrangement and combination of the frame A, bars *a*, spring B, and screws *d*, as and for the purposes shown and described.

No. 19,608.—SAMUEL MILLER, of Hammond, New York, and WILLIAM GATES, jr., of Frankfort, New York, assignors to WILLIAM GATES, jr., aforesaid.—*Improved Match Machine.*—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We do not claim the endless chain clamps C nor the cutting tool O; for they have been previously used, as stated.

But we *claim* operating or moving the chain of clamps C intermittingly, retaining it during the proper dwells, and opening the clamps

during said dwells, by means of the cams I I J J, constructed and arranged substantially as described.

We further claim the guide S fitted in the gate M and used in combination with the grooved bar R, for the purpose of guiding the match sticks, or causing them to be properly presented to the clamps.

We also claim the bar R, with or without the guide S, when said bar R is used in connexion with the cutting tool O, for the purpose of retaining the bolt in proper position as the cutting tool ascends.

No. 21,770.—PLATT MERRILL, of Port Sanilac, Michigan.—*Improved Portable and Water-proof Friction-Match Safe*.—Patent dated October 12, 1858.—This invention consists in having a portable box or case, similar to a portemonnaie case, provided internally with certain mechanism, so arranged that when the box or case is supplied with matches, disposed within it in a certain way, a match may, by actuating a lever, be shoved from the box or case in an ignited state ready for use, without exposing the matches within the box either to dampness or casual ignition.

Claim.—The lever B provided with the spring or yielding slide C, the plate F having the spring G and guides *r r* for retaining the matches in place, and the arm E provided with the corrugated spring catch *p*, the whole being arranged within and connected to the case A, substantially as and for the purpose set forth.

No. 21,082.—WILLIAM PAINTER, of Wilmington, Delaware.—*Money Table*.—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination of the dish or seat A, with its levers D D and slotted guide C, seated and arranged as set forth and shown, composed of wood or of a metallic substance, or composed of both wood and metal, for the purpose of a money changer or money receiver; not limiting myself to the exact form of the dish or seat A, so that the construction is substantially the same as to guide the money without any possibility of its falling elsewhere than into the palm of the hand.

No. 20,125.—THOMAS HALL, of Gloucester, Mass., assignor to THOMAS HALL & Co., of said Gloucester.—*Fishing Nets*.—Patent dated April 27, 1858.—The nature of this invention consists in the application to a common seine of a long bag, or net, to float on the surface of the water and extend beneath, and open at its mouth into the body of the seine during the draft of the seine so as to take a shoal of fish; on elevating the bottom of the seine, the fishes will be caused to pass into the bag-net so as to be entrapped therein.

Claim.—The art of taking fish by means of a seine, the employment of a bag B, in combination with the seine A, substantially in the manner as specified.

No. 20,235.—ROBERT WILSON, of Milton, Pennsylvania.—*Improvement in Fly Nets*.—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The peculiar construction of the fly-net, having the stitch set parallel with the rib combined with the two right angles formed by the lashes in passing through the rib, whether the ribs are made flat, round, or any other shape, substantially in the manner and for the purpose set forth.

No. 21,274.—ALEXANDER ROBERTSON, of Upper Holloway, Middlesex county, England.—*Improvement in Packages for Dry Goods.*—Patented in England June 26, 1855; patent dated August 24, 1858.—This invention consists in the adaption of wood and metal, to be combined, for the formation, in suitable shapes and sizes, of packages for dry goods.

A represents the section of a cast-iron bored cylinder, to be made of the diameter and length required to fit the exterior of the intended package. E shows the tube of wood in section. B shows the section of a tubular wooden block, which is cut longitudinally into six or eight sections, as shown, and marked *a*. C is a conical plug in the centre of wooden block B.

Claim.—A new manufacture and process and method of manufacture of packages for dry goods, by the combination of wood and iron, or other metal, and constructed and made in the manner described.

No. 20,715.—OLIVER HYDE, of Benicia, California.—*Improved Screw Picket.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The application of a loose swivel C to the top of a coarse threaded screw, in combination with a catch or lug B under the head of the screw, so that in connexion the swivel becomes the lever to turn the screw into the ground.

No. 19,832.—OLIVER COX, of Alexandria county, Virginia.—*Method of Securing Pocket Books, &c.*—Patent dated April 6, 1858.—A represents the plate or base of the lock, and may be made of any size; B is the pocket book; C the catch lever, working on screw *f* as its fulcrum, and by which it is attached to the base or plate; D is the projecting lever resting on the end of the catch lever, guide *g*, and the frame of the pocket book for operating the catch for unlocking the lock; *a* is a spring for keeping the catch lever in its place; *b* are the sides or rim of the lock; and *b*¹ the screw holes for fastening on the face plate.

Claim.—The lock, constructed as described, and attached to the pocket book, &c., in combination with the button, constructed as described, the whole operating as set forth for the purpose of attaching pocket books, porte-monnaies, and purses to the pocket of the wearer, as set forth and described.

No. 20,055.—THOMAS FISLER, of Camden, New Jersey.—*Improvement in Rulers.*—Patent dated April 27, 1858.—The claim and engraving explain the nature of this invention.

Claim.—The application to rulers of India-rubber, which will prevent the ruler from slipping, as described, using for that purpose the

aforesaid India-rubber or any other article substantially the same, and which will produce the intended effect.

No. 21,585.—C. A. WILLIAMS, ROBERT WILLIAMS, and G. A. MORSE, of Bloomfield, Maine.—*Improvement in Skate Irons*.—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim that portion of the studs included between the runner and the wood.

We do not claim the collar C nor the nut N.

Nor do we claim any heel spur which is not a continuation of a stud that is solid to the runner.

But we *claim* that portion of skate studs (solid to their runners) above the collars C upon which is cut the screw-thread T, in the manner and for the purposes substantially as set forth in the description.

No. 21,973.—CHARLES MATHEWS, of New York, N. Y.—*Smoking-Tube*.—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* arranging the tubes C and E with the mouth-piece D in such relation to each other that they form a compound smoking-tube for smoking tobacco or other substances in a finely divided state, the whole being constructed and arranged as specified.

And I also claim closing the upper end of the tube E in such a manner that the same when inserted into the draught-tube C and brought close up to the inner end of the mouth-piece D leaves a sufficient space for the passage of the smoke up through the central opening of the mouth-piece described.

And I further claim constructing an ash-pan in such a manner that the same slides on the compound smoking-tube by means of a loop H, so that the ashes dropping from the lighted end of the tube are deposited in the ash-pan, substantially as specified.

No. 21,473.—WILLIAM M. STORM, of New York, N. Y., assignor to ALLAN CUMMINGS, of said New York, N. Y.—*Apparatus for Stamping Milk-Cans*.—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the press with the counterpart die-bearers forming segments of two concentric circles to fit the exterior and interior of the "breast" of a narrow-mouthed can, and having the movable S-shaped head-block carrying the follower by guide-rods, as shown, on the one part of a die-bearer, while the counterpart die-bearer is provided with rods with hands that pass through holes provided in the can to catch upon the head-block, the whole being so constructed that two parts of the press may be combined and operated through the thickness of the can to perform its office, and thereafter be readily separated and removed, substantially as described; the purpose being to facilitate the marking of such cans after construction is completed.

No. 20,306.—GEORGE K. SNOW, of Watertown, Massachusetts.—*Machine for Affixing Post Office Stamps to Letters*.—Patent dated May 18, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination of feeding mechanism, shearing or cutting mechanism, a platen H and bed G, applied together, so as to constitute a machine for affixing postage stamps to letters, substantially as described.

I also claim the arrangement of the feeding mechanism, the platen and the shear or shears, with respect to the lever C and the bed, substantially as specified, whereby, by the reciprocating motions of the lever, results will take place as set forth.

I also claim the gags D, in combination with the bed, or the table, and the post-stamping mechanism.

I also claim combining with the post-stamping apparatus, or in one frame with it, a means of damping or wetting the surface F, or that part of a letter on which a stamp is to be affixed, as described.

No. 20,303.—ANDREW J. ROBERTS, of Boston, Massachusetts.—*Improvement in Street-Sweeping Machines*.—Patent dated May 18, 1858.—This invention is described by the claim and engravings.

The inventor says: I *claim*, first, hanging the brooms or brushes in a swinging frame on centres so arranged that it can be readily levelled and adjusted as fast as the brooms become worn, as described.

Second. The combination of devices whereby the brooms are raised or lowered, and at the same time the communication between the driving power and brooms established or cut off, the same consisting of the bent lever arm *n n n*, short arms *s s*, and pulleys *i i*, substantially as described.

Third. I claim attaching the spring plates to a swinging movable frame which is raised and lowered with the brooms, as described, whereby the said springs are raised from the ground when the brooms are not in use, and adapt themselves closely to the surface of the ground and press against the same when the brooms are at work, thereby preventing, by the weight of the brooms acting upon the springs, the vibrating or "bobbing" motion which otherwise the brooms would receive.

Fourth. In combination with the stud W W in the driving-wheels the circular grooved pulleys, as set forth.

No. 21,743.—AMZI CRANE, of Newark, New Jersey.—*Machine for Sweeping Streets*.—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the brush or sweeping-frame, being so adjusted that when the machine is in operation the weight of the said frame is supported as much as may be required at its corners upon the springs W W W W in the posts S S S S, and is free to conform to the uneven surface of the ground either as a whole or at any of its corners, substantially as described.

Second. I claim the endless band or chain of brushes, when said band or chain of brushes is operated for the purpose of depositing the

sweepings in a row by means of the grooved rollers $z z$, or their equivalents, into which the blocks of the brushes or the links of the endless chain are made to fit, substantially as described.

Third. I claim the combination together of the driving-wheel A, the bevelled wheel C, with the pulley A¹, belt M, rollers $z z$, and the endless band or chain of brushes, substantially as described.

Fourth. I claim the combination of the cross-bar E with the lever D, crank H, levers K and L, with their appropriate connexions, and the chains R R R R for elevating or lowering the brush frame and throwing the machine into or out of gear, substantially in the manner and for the purpose described.

No. 21,933.—JONATHAN BALL, of Utica, N. Y.—*Method of Hanging Swords*.—Patent dated November 2, 1858.—Figure 1 is a perspective view of the swivel pin, with the bit, plate, and portion of the scabbard or clasp. A represents the bit of the swivel pin; B is the swivel pin; C the plate; and D a part of the scabbard or clasp into which the scabbard fits.

Figure 2 is a view of the belt or sash plate which is to be attached to the belt or sash on the outside, either by sewing or by placing a plate with a corresponding hole on the inner side of the sash or belt, and riveting the two together. Through this plate is a hole, marked E, the size and shape of the swivel pin and bit. The bit, swivel pin, and plate, are usually made in one piece.

Claim.—The arrangement and combination of the scabbard D, plate C, and bit pin A B, with the belt or sash plate, substantially as and for the purposes shown and described.

No. 21,703.—IRA W. SHALER, of New York, N. Y.—*Improvement in Ticket Holders*—Patent dated October 5, 1858.—This invention consists in the construction and arrangement of parts by which the outward pressure of the ticket upon the holding bar is made to act upon the spring which draws said holding bar into the catch which secures it, so as to draw it more firmly under the hook, while at the same time the arrangement of parts is such that the holding bar may be readily disengaged by endwise pressure. The instrument is designed more particularly for the use of railway passengers, though there are other purposes for which it may be used.

Claim.—The combined construction and arrangement of the body A, holding bar B, spring C, and catch D, substantially as set forth for the purposes stated.

No. 19,856.—RHODOLPHUS KINSLEY, of Springfield, Massachusetts.—*Machine for Crimping Tobacco*.—Patent dated April 6, 1858.—In the engravings, a is the frame; $b b$ the first pair of rollers; the top plan shows these rollers to be convexed on their surface and rounded off towards their edges. c is the trough, through which the roll passes between rollers $b b$, by which it is flattened and the material somewhat equalized and crowded outward toward the edges; thence the roll may be made to pass through another similar set i , and so on.

Claim.—The employment of one or more pairs of rollers constructed

and arranged substantially as above set forth, for equalizing and crimping rolls in the manufacture of lump tobacco.

No. 20,199.—JAMES W. EVANS, of New York, N. Y.—*Improvement in Pipes and Cigar Holders or Mouth-Pieces for Smoking Tobacco*.—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The combination of the bulb or chamber and the sponge or any other suitable material saturated with water, in the construction of smoking pipes or cigar holders, constructed and arranged substantially as described.

No. 20,075.—CONRAD LIEBRICH, of Philadelphia, Penn.—*Toy*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Arranging certain numbers, letters, words, or other signs, upon two, three, or more disks, and combining them with certain devices for setting the disks in motion, and stopping them in such a way that after each stoppage the relative position of the disks shall be changed, so as to show a different relative position of those numbers, letters, words, or other signs, upon the circumferences of the disks, and arranging the whole in such a manner that the nature of the change in the relative position of the disks after each stoppage will be a matter of accident, as set forth.

No. 22,078.—C. JILLSON, of Worcester, Mass.—*Improvement in Animal Traps*.—Patent dated November 16, 1858.—The nature of this invention consists in so making a trap that the hole shall close up or collapse, and thus bring up the fork or spears that are arranged in the trap.

Claim.—A rat or animal trap in which the jaws are moved from each other in a plane, and thus enlarge the opening between them, and which, when tripped, shall close up or contract the said opening, substantially as described and represented, and for the purpose set forth.

No. 21,647.—MOSES H. BIDDLE, of Mount Carmel, Ill.—*Improvement in the Construction of Animal Traps*.—Patent dated October 5, 1858.—This invention relates to that class of traps which is automatically reset in the act of entrapping the animal, and it consists in the peculiar arrangement and combination of the parts which effect this object.

The inventor says: I am aware that traps have been hitherto made with revolving platforms, which would set themselves in the act of entrapping the animals.

And I do not claim broadly all traps with these distinctive features.

But I *claim* the combination and arrangement of the pivoted bar *c*, spring detent *l*, and the spring catch *d*, for the purpose set forth and as described.

I also claim the arrangement of the spring pulley *g*, cord *f*, and axis *e* of the revolving platform of a rat trap in combination, for the

purpose of effecting a prompt revolution of the platform as soon as the detent is disengaged.

No. 21,676.—EDMUND HILL, of Cincinnati, Ohio.—*Improvement in the Construction of Animal Traps*.—Patent dated October 5, 1858.—The trap, when set, is open at both ends. A is the trap proper; B is the receiving box; C C¹ are the doors which are held open by the trigger D, which a fox is about to disengage by getting on the platform E, which act releases the trigger and closes the trap, as seen in fig. 2. The fox being now entrapped, and seeing a light in the upper chamber clambers to it, and, rushing forward under and past the falling gate F, thereby lifts the lever G, and with it the doors c c¹ and the trigger-setting apparatus I I.

Claim.—The ridge or step K, in combination with the door F and lever G, for the purpose of resetting the trap.

No. 19,382.—THOMAS M. SCOTT, of La Grange, Ga.—*Fly Trap*.—Patent dated February 16, 1858.—When the flies alight on the end A¹ of the apron that projects through the end of the box A they are carried through the space f and around through the box A into the chamber c, the partition a preventing their egress from the chamber, and the flies will then pass upward through the opening i into the receptacle D.

Claim.—The arrangement of the recess C, end A¹, spaces e f, chambers c d, end piece g, openings i i¹, receptacles D D¹, box A, and partition a, all as described, whereby the catching and retaining capacity of the contrivance is doubled without any augmentation of the driving power, and with little or no increased expense in construction.

No. 20,091.—WILLIAM RILEY, of Madison county, Miss.—*Fly Trap*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The shape of the trap; the sliding drawer, as described; the manner in which the triggers are made, as described; the tube which prevents the flies from returning from the bag to the box; the bag and circle by which the flies are destroyed, by detaching the bag and circle from the box; and the glass on the back part of the box, introduced to give light, and lead the flies away from the place of entrance to the bag.

No. 21,646.—BRYAN ATWATER, of Berlin, Conn.—*Fly Trap*.—Patent dated October 5, 1858.—In this invention a suds reservoir A is used, which is made in the form of a deep trough, and has one side notched or provided with its top arranged about one-third of an inch below the upper edges of the two ends and the other side, so as to form a passage a extending from one end b to the other b¹ of the trough. This reservoir is to be attached to a handle B in such a manner as to enable it to be held up to and moved on a ceiling of a room with its mouth against the same.

Claim.—As a new thing or manufacture, a fly-catcher constructed

with the notch or passage *a* arranged with respect to the upper edges of its side and two ends, and so as to operate substantially as described under circumstances as specified.

No. 19,825.—JOHN L. BRABYN, of New York, N. Y.—*Improvement in Traps for Animals*.—Patent dated April 6, 1858.—In one side of this trap and near the top is an opening of suitable capacity to admit the animal for which it is intended, which constitutes the entrance into the trap. This opening is surrounded on three sides and upon the top by a partition, thus forming a sort of recess, extending to near the centre of the trap. The bottom or floor of this recess is level, and forms, in connexion with an inclined plane having its position on the outside of the trap, what may be termed a tilting platform.

The inventor says: I do not claim the straight platform in any position.

But I *claim* a tilting platform in combination with the enclosed recess C C, when the platform is comprised of the inclined plane and horizontal floor A A, as described, and for the purpose specified.

No. 20,873.—SAMUEL GIBSON, of Martic Township, Pa.—*Improvement in Traps for Animals*.—Patent dated July 13, 1858.—I is the reception chamber, open at the rear, and shorter than the main box or trap; across this opening is suspended a movable wire cage A; the dotted lines show where the wires are inserted, to the projecting arms of which a wire *i* passes, running square in front with a depressed centre, passing through and keeping the swinging nozzle catch B in place. The bait slightly acted upon will unslip the catch, and the wire cage drops down behind and shuts the animal in; seeking to escape, it enters through an opening G into the tilting chamber I I on to the tilting bottom E pivoted at O.

The inventor says: I do not claim the tilting floor and parts separately.

But I *claim* the chambered box, wire drop cage, and tilting bottom, when combined and operated substantially as set forth.

No. 21,302.—FREDERICK REUTHE, of Hartford, Connecticut, assignor to MORITZ LOTH, of said Hartford.—*Trap for Animals*.—Patent dated August 24, 1858.—The nature of this invention consists in the construction of a metallic trap, of a flat circular form, to be placed over or near the place of resorts of rats, moles, or other small class of animals.

Claim.—The notched curved yoke B and the application and combination of the various parts to form a trap, in the manner and for the purpose substantially as set forth and described.

No. 21,454.—RUFUS M. TURNER, of Woodland, Michigan.—*Improved Trap for Animals*.—Patent dated September 7, 1858.—This invention consists in the employment of a pivoted or swinging platform with spring-treadle attached, to which a catch or fastening is connected that sustains the platform in a proper horizontal position,

the above parts being placed in a suitable base and arranged in such a relation to a bait-box that a rat, in attempting to reach the bait, will depress the treadle and thereby release the platform from its catch, the platform consequently tilting by the weight of the rat and throwing the animal into a tub or reservoir of water, over which the trap is placed.

The inventor says: I am aware that tilting platforms have been previously used and arranged in various ways to form self-acting traps; I therefore do not claim separately and broadly such device.

But I *claim* the tilting platform B and treadle C connected with the spring-catch *g*, the platform being placed within the base A, and the platform and treadle arranged in relation with the box E and bait-chamber *j*¹, substantially as and for the purpose set forth.

No. 21,978.—REUBEN L. PAYNE, of Halifax, Virginia.—*Trap for Animals*.—Patent dated November 2, 1858.—Upon the bottom of the box A is placed a smooth plate B, extending from one end into the trap beyond the points or tips of the fingers C. Between this plate B and the end piece or plane of the trap a space or door-way is left by adjusting the end piece so as to extend only about two-thirds of the way from the top of the box toward the bottom. Just above the door-way is arranged a series of fingers C supported by a rod *c*, so that each finger has an independent free vibration.

Claim.—The arrangement of the separate balanced fingers C, in connexion with the box or body of the trap, substantially as described and for the purpose set forth.

No. 19,355.—EARL D. FINK, of Columbus, Ohio.—*Trap for Catching Rats and other Animals*.—Patent dated February 16, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The pivot-catch or trigger, with arms *d* with square and bevelled slots or catches for supporting and disengaging the floor C, operating as described and for the purpose set forth.

No. 20,042.—WILLIAM H. COX, of Virden, Illinois.—*Rat Trap*.—Patent dated April 27, 1858.—This is a sliding box or case operated by a spring and retained by proper catches, a stationery chamber and a bed piece provided with upright end pieces, the whole being so arranged that, by means of a spring, the trap is rendered self-setting, and the animals as caught are retained in the chamber without interfering with the operation of the trap.

Claim.—The sliding case B placed on the bed piece A, which is provided with end pieces *a a* and partitions *b b*, the case being operated by means of the spring *G*¹, shaft E, cross-arm F, arbor G, connected with proper triggers *p*, substantially as and for the purpose set forth.

No. 21,726.—ALEXANDER N. SHELL, of Richmond, Va., assignor to WILLIAM SEARS WOOD & THOMAS N. SHELL, of said Richmond.—*Roach Trap*.—Patent dated October 5, 1858.—On the top of the body of the trap is an annular ring B, made of smooth metal; this ring inclines

inward and downward towards the centre of the trap. In the centre of the trap is an upright stem C, which supports the bait-pan D; this pan must be made loose so as to be lifted off when the trap is to be emptied, that the bait may be saved. The bait-pan is placed nearly on a level with the top of the trap, so that when the roaches ascend the outside of the trap they are enabled to see or smell the bait in the pan, and begin to travel toward it; in doing this they descend the inclined annular ring and drop off the edge into the body of the trap.

Claim.—The centre bait-pan D, in combination with the annular ring B, when located as shown and described, for the purposes set forth.

No. 20,931.—W. R. BENNETT and C. STORER, of Boston, Mass.—*Twine Box*.—Patent dated July 20, 1858.—This invention consists in a device for holding and bringing out the twine from the ball, so that when one is exhausted the end from another may be brought out without delay, and in so guarding the edge of the knife attached to the box that the persons using it will not be liable to wound their hands, and yet that the twine, when pressed down on the knife in a hurried manner, will always strike the edge in such a position as to insure its being cut off.

The inventors say: We *claim*, in combination with the box A, the eyelets *g*, attached to the shaft D, and operating in the manner substantially as set forth.

Second. We claim the knife guard E, constructed and operating in the manner substantially as described.

No. 19,875.—JACOB T. SARGENT, of Carlinville, Illinois.—*Wallet Fastener*.—Patent dated April 6, 1858.—The object of this invention is to enable a pocket book, purse, or other article of value, to be attached to a pocket in such a manner as to prevent it being stolen or removed therefrom by a pickpocket.

Claim.—The combination of the spring catch and the attachment plate, the same constituting a safety apparatus for the purpose described.

Also arranging the spring catch and attachment plate together as specified, and making the said catch with a bend or recess *d*, disposed with respect to the attachment plate in manner and for the purpose set forth.

No. 20,299.—P. POPPENHUSEN, of New York, N. Y.—*Improvements in Manufacture of Artificial Whalebone*.—Patent dated May 18, 1858.

The inventor says: I do not claim saturating rattan with dyeing materials or with boiled linseed oil, as these processes have before been practised.

But I *claim* in the preparation of rattan subjecting it to mechanical pressure after it has been saturated with linseed oil or equivalent substance, and whilst the oil, or other equivalent saturating substance, is in a viscid state, substantially as described.

No. 21,740.—GEORGE J. COLBY, of Waterbury, Vt.—*Machine for Peeling Willow*.—Patent dated October 12, 1858.—The nature of this

invention consists in the employment of detaching rollers, an endless apron, separator and discharge rollers, arranged so as to perform the desired work.

Claim.—The vibrating rollers B B¹, in combination with the rollers L M H H¹, comb N, and apron K, or its equivalent, the whole being arranged to operate as and for the purpose set forth.

CLAIMS OF RE-ISSUES GRANTED DURING THE YEAR 1858.

No. 517.—*Improvements in Sewing-Machines.*—What we claim is, the arrangement of the bed, eye-pointed needle, and hook, or equivalent looping apparatus, substantially as described, so that the bed shall be interposed between the hook, or equivalent looping apparatus, and the material to be sewed, to resist the puncturing operation of the needle, to hold such material against the pull of the hook when drawing the thread to tighten the stitch, and to prevent the varying thickness of the material from producing any variation in the length of thread which is carried through by the needle, as set forth.

And we also claim, in combination with the eye-pointed needle and hook, or equivalent looping apparatus, with the bed interposed between the material to be sewed and the hook or its equivalent, a plate to make a self-adapting pressure on the material to be sewed in close proximity to the needle to hold it against the bed during the reciprocating motions of the needle, but which, while it so holds the material, shall be free to yield to the inequalities of such material as it is drawn forward under it by any feeding apparatus, substantially as set forth.

I. M. SINGER.

EDWARD CLARK.

No. 518.—*Improvements in Sewing-Machines.*—What we claim is, in combination with an eye-pointed needle and a feeding apparatus for moving the cloth or other material to space the stitches, the employment of a plate or equivalent therefor to make a self adapting pressure on the material to be sewed, in close proximity with the needle, and in such relation to the needle and the bed or other surface which resists the puncturing operation of the needle that the said yielding pressure shall act against the said material in the same direction as the needle in its puncturing operation, and shall hold such material smooth and steady while the needle is being withdrawn, and while the stitch is being drawn tight, the said yielding pressure being free to yield and adapt itself to the inequalities of such material as it

is moved along by the feeding apparatus to space the stitches, substantially as described.

I. M. SINGER.
EDWARD CLARK.

No. 519.—*Improvement in Printing Presses*.—I claim the gauge-bar for cards, herein above referred to, in combination with the vibrating platen, and stop finger, and crank which operates the same, in the manner and for the purpose herein above described.

I also claim the use of a segment of a cylinder, in combination with the stationary form bed, so that the rotary inking apparatus may move over the form, and then after taking ink from the fountain, distribute it on said cylinder, as herein above set forth.

I also claim, in combination with the stationary form bed, the revolving cheek plates I I, for carrying the rolls over the form, as set forth and described.

I also claim the movable bearers on the side of the form bed, arranged and operated substantially as herein above described, so as to be moved outwards when the inking rollers are passing over the form, and drawn inwards when the sheet or tympan is moved up to said form.

I also claim regulating the delivery of the ink, by combining with the delivery roller a grooved ratchet wheel and weighted pawl band, operating with the lever stud, cam roller, and stop lever, substantially as herein above specified.

I also claim supporting the journals of one of the inking rollers on sliding bearers, so that it may be moved up against the delivery roll by means of studs on said bearers and cams, operating the same as herein above set forth.

STEPHEN P. RUGGLES.

No. 520.—*Improvement in Vault Covers*.—I claim combining glasses of an inverted pyramidal, polygonal, or conical form, with the sash or metallic portion of an illuminating vault cover, or its equivalent, for the purpose of producing a wide spread and perfect diffusion of the rays of light which may pass through said cover into the apartment beneath, substantially as herein set forth.

GEO. R. JACKSON.

No. 521.—*Improvement in Eccentric Explosive Shells*.—I claim the combination of the head or segment of the solid sphere with flat base uniformly around the fuse hole with the segment of the hollow part, forming a spherical shell with flat based head and externally smooth, as described.

WM. W. HUBBELL.

No. 522.—*Improvement in Air-tight Stoves*.—I claim a fire-pot, a combustion chamber and descending flues leading from the bottom thereof and between the fire-pot and outer casing to a chimney, all arranged in the interior of a box enclosure or casing of suitable materials, with proper provisions for admission of air or fuel, all substantially such

as are described, in combination with a properly governed aperture for admitting air into the chimney without passing through the fire, substantially in the manner set forth herein, the whole constituting a stove substantially such as is herein specified, and this combination as claimed whether the oven be used or not.

ZEPHENIAH BOSWORTH.

No. 523.—*Improvement in Machines for Numbering the Pages of Account Books.*—I claim the mode of arranging and operating the numeral types for printing the pages of the whole book, substantially as herein described, to wit: arranging the types of the several numbers from 1 to the highest number required in a serial order, in one or more continuous lines, one behind another, and bringing them up successively and separately to the point of impression, so that the type of each number is independent of all others, and used alone and but one in the paging of the whole book, and all others are out of the way; and this I claim whether said types are fixed in a chain or chains or in any other manner by which the same system of operation is obtained.

And I also claim arranging two type chains or continuous lines of type parallel with each other, at a proper distance apart, and with the types in proper serial order, and operating the same simultaneously, substantially as described, to print the numbers of two pages simultaneously on two opposite corners of the same side of a sheet.

And I further claim the arrangement of two pairs of type chains or continuous lines of type, substantially as described, to print the numbers of two pages on each side of a sheet while the sheet is passing once through the machine.

JOHN McADAMS.

No. 524.—*Improvement in Scythe Fastenings.*—I claim the combination of the loop-bolt and set-ring constructed and operating substantially in the manner above described and set forth.

PINCKNEY FROST.

No. 525.—*Improvement in Corn Planters.*—I claim, 1st, the method set forth of discharging seed from a plough or drill by means of the anchored chain *i j k* or its equivalent.

2d. The chain or cord *i j k* adapted substantially as set forth to operate the discharging mechanism of a seed planter.

3d. In the described combination with a suitable chain or cord, I claim the arm *f*, provided with a vibrating claw or tappet *g*, or substantially equivalent devices operating the seed-delivery mechanism, as set forth.

MARTIN ROBBINS.

No. 526.—*Improvement in Seed Planters.*—I claim a shoe for opening a furrow which has a convex edge in front and a seed tube in its rear end, so that it may cut through any grass, open out a furrow, and hold it open until the seeds are deposited in it, substantially as herein set forth.

GEORGE W. BROWN.

No. 527.—*Walking-Stick Gun*.—I claim, 1st, moving the lock piston H backwards to effect the cocking of the lock by revolving the section T and its attached spiral cam T¹, as described.

2d. Cocking the lock (or retaining the lock piston H in position when moved backward to its full extent) by the locking plate E dropping into a transverse groove in the top of the piston, as described.

3d. The construction and operation of the trigger G, as described, which enables the trigger to be closed up against the body of the gun while the lock is cocked.

4th. The combination of the locking plate E with the trigger G, as described, by which the strain of the spring of the piston H is brought entirely upon the locking plate, leaving the trigger free from strain or pressure, and enabling the trigger to discharge the lock with slight effort.

5th. The thimble V, as described, for the purpose of being moved over the lock catch E and trigger G to confine and secure them, so that the lock cannot be operated without first moving back the thimble.

6th. Extending the body M beyond the barrel N, and constructing it of lighter material than the barrel, as described, for the purpose of making the cane of requisite length, and of guiding and directing the course of the bullet after it is fired from the barrel, without adding materially to the weight of the implement.

IRA BUCKMAN, Jr.

No. 528.—*Improvement in Moulds for Casting Pencil Sharpeners*.—I claim, in combination with the matrix for casting or forming the hollow conical or bell-shaped body of a pencil sharpener, essentially as described, a device or mechanism for holding the blade in the matrix, and one for forming the chip throat of such blade and body during the process of casting or founding the said body on the blade, as specified.

And, in combination with a device or mechanism for holding the blade in the matrix, I claim a slider or device for supporting its back while such blade is in contact with the core and the throat slide or former.

I also claim making the core *d* with a groove *b*¹ arranged in its outer surface, in manner and for the purpose as set forth, or, in other words, combining with the said core and the mechanism for holding the blade a groove arranged in the core, substantially in the manner and for the purpose specified.

I also claim the mode of making the throat slide or chip mouth former A, viz: in two parts or plates *j p*, applied, respectively, to the two parts or sections *i l* of the mould, essentially in manner and for the purpose as described.

I also claim combining with the base *a* its core *d* and the parts *i* of the mould, when applied to each other substantially as described, an adjusted gauge or stop *k*, arranged on the base plate, or in other respects, so as to operate essentially as set forth.

WALTER K. FOSTER.

No. 529.—*Improvements in a Printing Press.*—First. I claim the arrangement of a distributing cylinder, or segment of a cylinder, or other suitable form of distributing surface, which shall always be held or fixed in the desired position without resort to stops, latches, or other secondary and movable attachments, and at the same time allow the rollers, or set of rollers, to move unimpeded in an onward direction around or over it, for the purpose of distributing the ink evenly, and meeting and inking the form of types in their transit, one set after the other, at each succeeding passing over the distributing surface and form of types, performing its proper duties; the whole being one continuous operation.

Second. I claim carrying two or more sets of rollers in an onward direction around and over a distributing surface, or surfaces, and a type bed, when such sets of rollers shall admit an impression to be taken immediately after the passage of each set of rollers consecutively, whether the rollers are carried in the precise manner herein set forth, or by some equivalent mechanical contrivance to produce a like result—that is to say, the allowing of several sets of rollers alternately or consecutively to pass over or around the distributing surface and the form of types, and admit of an impression to be taken between the time one of the sets of rollers leaves the form and the next set arrives at it, for the purpose of giving a slow motion to the inking with rapid impressions upon the same form of types, thus effecting more speed as regards the number of impressions in a given time, as herein set forth.

Third. I claim the arrangement of a fixture to the frame, and forming a part thereof, one on each side of the press, extending inwards towards its longitudinal centre, of tubular projections, or studs, or staves, or shoulders, or their equivalents, for the purpose of supporting both the bed and inking apparatus, or either of them, upon such tubes or projections, while, at the same time, the frame or roller carriage may be snugly fitted to the outside of such tubes, so as to have its bearing and revolve upon it; and the projecting tubes from the journal boxes, in which the main shaft rests and revolves—each of these by different gearing and at different speeds, if need be—so that by the use of such projecting studs may be effected change of speed between the inking rollers and the impression shaft, all working upon and from one general centre.

Also the separate revolving of the rollers upon the outside of the same, regardless where the main shaft may be placed, studs forming supports for the inking and impression apparatus.

Fourth. I do claim the arrangement of the gauge 1, guides 2, pawl *b*, cranks *s* and *d*¹, rod *e*¹, pin *f*, and wheels *a*², in combination with the shears for cutting off the sheet after it is printed, and the cam *y*, from which it receives its motion, the whole of these parts operating as described; all of which is herein fully described and set forth.

GEORGE P. GORDON.

No. 530.—*Improvement in Safety Indicators for Steam Boilers.*—I do claim the within described arrangement of the vessels C and D, as applied and connected with the feed pumps and steam whistle, for the purpose of regulating the pump and sounding an alarm, as set forth.

I also claim connecting the pipe I with the boiler by means of the feed pipes B, as set forth, for the purpose described.

L. J. KNOWLES.

No. 531.—*Improvement in Billiard Cues*.—I claim my mode of providing said cue tops, or the cues, with screws, and adjusting them to each other in the manner as above substantially described.

CONRAD LEICHT.

No. 532.—*Improvement in Carding Machines*.—I claim the application of the steel ring, hooked tooth cylinder or cylinders, to act as combers, workers, or doffers, in combination with wire tooth carding, for the purpose of quicker and more effectively opening wool and other fibrous materials, substantially in the manner described and shown.

S. R. PARKHURST.

No. 533.—*Improved Machine for Making Barrels and other Casks*.—I claim the vibratory block or bed D, adjustable gauge C, and knife or cutter B, arranged relatively with each other, so as to operate as and for the purpose set forth.

ISAAC CROSSETT.

No. 534.—*Improvement in Running Gear for Locomotive Engines*.—I claim so arranging the running gear of a locomotive engine as to make the drivers support its *entire weight*, in combination with a pilot truck vibrating freely to guide the engine, substantially as described.

SEPTIMUS NORRIS.

No. 535.—*Improvement in Life-Preserving Rafts*.—I claim a life-preserving raft formed by the ordinary water casks or tanks of ships, having eyes secured thereto so as to be air-tight, and connected by spring stay rods, substantially as described, in combination with a rope net-work and canvas sheet, operating as and for the purpose set forth.

LORENZO TAGGART.

No. 536.—*Improved Gas Tube Joint*.—I do claim a conduit universal joint, made substantially as described, viz: with the armed branches *g h* and their connexion cross jointed together, and provided with one or more passages so arranged in them as to open a communication from one leading tube *a* to the other *b*, with which such conduit joint may be connected.

And I also claim the combination of the relief ring *c*, or its equivalent, with the armed branches and the connexion cross, the same being arranged therewith substantially in the manner and for the purpose as specified.

CHARLES MONSON.

No. 537.—*Improvement in Lard Lamps*.—I claim the combination of the hot-air chamber, which is formed by the arrangement of flat

inclined wick tubes, in the manner above specified, with the lamp cap; and

I also claim the combination of the flat, inclined wick tubes with the concave reflector, as above described, for the purposes above mentioned, my invention having special reference to a lard lamp.

ISAAC N. COFFIN.

No. 538.—*Improvement in Machinery for Making Hat Bodies*.—I claim automatic method of forming hat bodies, having the required variation in thickness at their different parts, by supplying picked fibres to an exhausted former of the size and shape required in such manner that a larger portion of picked fibres is supplied to that part of the former which corresponds with the thickest portion of the hat body, and a less portion to the other parts of the former, substantially as herein set forth.

I also claim the combination of a picking apparatus, a hat body former, an air-exhausting apparatus, and a conductor, the whole combined substantially as herein set forth.

I also claim a bowstring picking apparatus, constructed and operating substantially as herein set forth, to pick fur presented to it by a suitable feeding and nipping apparatus.

WM. FOSKET.

No. 539.—*Method of Employing Centrifugal Force in Casting Iron Pipe*.—I claim forming pipes or other castings by centrifugal force, by causing the mould into which the liquid material is poured to revolve.

T. J. LOVEGROVE.

No. 540.—*Improvement in Grain Separators*.—I claim, first, the endless chains *d* composed of metallic links, provided with protruberances or depressions, when used in combination with suitable driving pinions to impart a positive motion to the straw-carrier of a threshing and separating machine, as explained.

Second. In combination with a receptacle in which the tailings are deposited by the winnowing apparatus, I claim the arrangement of the screw elevator *o* in relation to the threshing cylinder, for the purpose of returning the tailing to be rethreshed, as set forth.

J. R. MOFFITT.

No. 541.—*Improvement in Railroad Car Wheels*.—I claim, in railroad car wheels to be cast in one piece with a chilled rim, the forming of such wheels with a hollow concentric annulus or ring, the plates forming a curve substantially as specified to yield by bending to the unequal contraction; in combination with the connexion thereof with the rim at or near the middle of its width by means of the solid ring, substantially as described, to give the required support to that part of the rim which is most exposed to fracture in use, as set forth.

And I also claim, in combination with the hollow annulus or ring, connected with the rim by a solid ring, substantially as described, the inner hollow annulus or ring next to and connected with the limb,

substantially as described, and connected with another hollow annulus or ring by a solid ring, substantially as described, whereby ample provision for yielding to the unequal contraction is obtained, while at the same time the metal composing the wheel is so disposed as to prevent in a great measure the injurious effects of vibrations, and to resist the jars and concussions to which railroad wheels are exposed in use.

WM. B. TREADWELL.

No. 542.—*Improved Sawing Mill*.—I claim, first, the particular means and their arrangement as described for accomplishing that end.

Second. Effecting by means of an eccentric the combination of the log carriage and automatic reversing mechanism, thereby rendering the saw mill capable of self-feeding and self-gigging, as set forth.

Third. So adjusting the ganging incline d^3 that its hinge or pivoted joint and its opposite end or terminus shall always be at the same and equal distances from the set shaft F, as described.

Fourth. The application in the manner described of the adjustable self-fastening trip z to a saw mill which operates with a continuous rapid motion back and forth, in combination with the vibrating reversing stop w^2 , substantially as and for the purposes set forth.

WM. M. FERRY, Jr.

No. 543.—*Improvement in Rollers for Window Shades*.—I do claim the combination of India-rubber or equivalent substance with a window shade roller or its pulley, substantially as and for the purpose described.

J. B. BAILEY.

No. 544.—*Improvement in Steam Boilers*.—We claim, first, connecting the water legs, extending from the front to the rear end of the boiler, continuously to the shell of the boiler at the point of the greatest horizontal diameter of the boiler, substantially as herein set forth.

Second. Interposing perforated plates between the flanges of the water legs and the shell of the boiler, as and for the purposes described.

WM. M. ELLIS.

J. B. ELLIS.

No. 545.—*Improvement in Grass Harvesters*.—I claim, in combination with a main frame, a loose cutter bar or finger beam that projects laterally from it, and so hung to the frame of the machine as that, in being dragged over the ground, it shall receive all its vertical movements solely from the undulations of the ground over which it is drawn by means substantially as described.

I also claim the bars or rods K K¹ for connecting the beam to the main frame, when said bars effect the objects herein stated, and by the means substantially as described.

I also claim the combination of two hinged or jointed rods or bars K m for allowing the cutter or finger bar or beam its vertical but restraining its lateral motion, substantially as described.

JONATHAN HAINES.

No. 546.—*Improvement in the Printing Machine called a Power Printing Press.*—I claim, 1st, the method herein described, or any other substantially the same, for giving the bed its proper periods of motion and rest, and producing impressions by means of the combination consisting of the crank D, the pitman D¹, the declension lever i⁵ i⁶, and the toggle joints e¹ e¹.

2d. I also claim the within described method, or any equivalent mechanism, for giving the proper periods of motion and rest to the frisket carriage, and each and all the parts attached to it, by means of the combination consisting of the arm O⁴, the rocking bar O³, the inclined plane by which said bar is disengaged, the shaft O, and the crank n¹³.

3d. I also claim the combination of one or more feed frames with the frisket or friskets, or mechanism for receiving the sheets to be printed, the same being substantially as herein set forth.

4th. I also claim the within described mode, or any other essentially the same, of securing against the platen the sheet to be printed; whereby it is not only kept steady and prevented from bagging, but is also, after the production of an impression upon it, separated from the types in a proper and safe manner.

5th. I also claim constructing the pitman, as herein described, or in any manner substantially the same, the bearing surface i¹, the shoulder i², and the joint h⁵, constituting its essential characteristics, so as to allow said pitman to be operated and to produce effects in the manner substantially as herein specified.

6th. I also claim, in combination with the within described mechanism for producing the impressions, the treadle K⁴, or its equivalent, to prevent impressions being taken or produced while other parts of the press are in motion, whenever such prevention may be desirable.

7th. I also claim the combination of the double frisket carriage, the bed, platen, and the rollers for inking the type, with two sets of inking mechanism; the whole being made to operate together substantially as herein explained, and the several parts being constructed and connected substantially as herein set forth.

8th. I also claim the combination consisting of the platen, (when constructed substantially as herein stated,) the bed, and distribution cylinders.

9th. I also claim the combination of a crank with the carriage n⁶, for the purpose of carrying the inking rollers over the form, and for giving the friskets n⁷ their proper motions and periods of rest.

10th. I also claim the mode of constructing the winter E, or bottom bar, as shown in figures 8 and 34, or any equivalent device by which inconvenient height in the machine is avoided, said winter being made with a ledge or shoulder near its lower part, upon which the toggle joints are sustained, substantially as herein described.

11th. I also claim the combination of the fountain with one or more distribution cylinders and a traveller L, the same being for the supply and distribution of the ink, substantially as herein described.

12th. I also claim placing the apparatus for the supply and distribution of ink so that the distribution cylinders rest over or nearly over the fountain, the roller which takes the ink from the fountain

roller being placed between the fountain and the cylinders $K^5 K^5$, in the manner substantially as herein shown.

13th. I also claim the mode herein described of laying the ink upon the types by passing the rollers $K^6 K^6$ between the bed and platen, said rollers being brought to a stand, in their horizontal movement, for the purpose of receiving their supply of ink from a cylinder or cylinders, substantially as herein stated.

14th. I also claim the within described mode by which the nuts $g^1 g^1$, which sustain the impression, are brought to their proper positions and secured there, that is, by the hoops g^2 , set-screws g^3 , and pins g^5 , substantially as specified.

15th. I also claim the mode of producing the impressions by means of toggle joints applied to the under or reverse side of the bed, substantially as herein described.

16th. I also claim the combination of the rocker-shaft d^2 and the levers d^1 with the bed, the same being for the purpose of keeping the bed level, substantially as herein described.

ISAAC ADAMS.

No. 547.—*Improved Sirup Casters*.—I claim the combination of a self-measuring faucet and air-tube with each of two or more reservoirs for sirup or like fluids, the reservoirs being on a common base, forming a caster substantially as and for the purpose specified.

EDMUND BIGELOW.

No. 548.—*Improvement in Harvesters*.—I claim, first, operating and changing the speed of the cutters by means of the internally geared wheel I and spur-wheel D^2 , in combination with the pinion J, the same being arranged and rendered adjustable, substantially as herein set forth and for the purpose specified.

Second. Connecting the rod G to the end of the lever F by means of the swivel joint i , when the said joint is situated at or near the centre of vibration of the cutter-frame.

CHAS. CROOK.

No. 549.—*Improvement in Bagasse Furnaces*.—We claim inserting in the furnace a skeleton dome rising above the exit flue, so as to arrest the fall of the wet bagasse, and for a limited time retain it above the fire without obstruction to the draught of the furnace, substantially as hereinbefore set forth.

YOUNGS ALLYN.

ABRAHAM HAGER.

No. 550.—*Improvement in Boxes for Receiving Passengers' Fares*.—I claim a fare box having two compartments, into which one of the fare is first deposited and temporarily arrested previous to its being deposited in the other, when the former is provided with glass sides, so arranged that the passengers can see through one, and the driver or conductor through another in the same manner, substantially as and for the purposes set forth.

J. B. SLAWSON.

No. 551.—*Improved Arithmometer for Adding*.—I claim, first, the combination of the repeater X, the stationary repeater stop 17, the sliding stop-bars T¹ T², &c., and the stationary stop-pin *w*, with the driving-wheel D, or its equivalent, provided with a series of holes *e e*, the whole operating substantially as described to control the motion of the register.

Second. Combining the shaft of the driving-wheel D, or its equivalent, with the keys S¹ S², &c., by means of a stronger spring *y* and a weaker spring R and a lever 13, deriving motion from the keys, the whole operating substantially as herein described, for the purpose set forth.

Third. Combining the keys with the sliding stop-bars T¹ T², &c., by means of the wedges 8 8 attached to the keys; the arms U U sliding on guide-bars V, and the collars 6 6 and springs 7 7 applied to the guide-bars, substantially as and for the purpose specified.

Fourth. The loose teeth *r* applied to the wheels *o o*, and operating substantially as herein described for the purpose specified.

Fifth. Making the "register" movable longitudinally relatively to the driving-wheel D, or its equivalent, substantially as described, for the purpose of changing the driving operation to the register-wheels of different denominations at pleasure.

O. L. CASTLE.

No. 552.—*Improved Sawing Mill*.—We claim changing the saw, after each cut, alternately from an oblique position in one direction to an oblique position in a contrary direction to the line of the log carriage while cutting in either direction, by the movements of the machine, and for the purposes herein set forth.

We also claim the swing-guides *w¹ w¹*, in combination with the stationary guides *w w*, for the purpose of guiding the saw, as described.

We also claim the two wedge-rollers, or wedges P¹ and P², to keep the board clear of the saw while cutting in either direction, as described.

We also claim the combination of pinions *i* and their pins *o*, entering into recesses of plates *b*, the ratchet-wheels *g*, the ratchets *r*, the adjustable segments J, and the wheels G¹, the screws G, and the rods K, with their clutches Z and V, for the purpose of setting the log to the saw, and stopping the setting when the log frame advances too close to the saw.

And we also claim the notched plate *t*, in combination with the latch *g*, lever *u*, and link *l*, for the purpose of operating the belt-shifter *l* without turning the lever D, substantially as set forth.

WILLIAM HAWKINS.

WILLIAM C. CLARY.

No. 553.—*Improvement in Seed Planters*.—We claim the pocketed roller, as described, running close to the bottom of the cell, in combination with the adjustable aperture in said cell bottom, when the relation between the width of the pocket and maximum size of the aperture is such that the pocket will always embrace the aperture, as and for the purposes described.

B. KUHN.

M. J. HAINES.

No. 554.—*Improvement in Seeding Machines*.—I claim, first, the employment of a tubular chamber or discharger, rotating rapidly in a horizontal position, so that its outer edge or periphery will be in a plane vertical or nearly vertical to the horizon, and thereby communicating a centrifugal motion to the grain, seed, &c., away from the centre of a circle whose plane is thus vertical or nearly vertical to the horizon.

Second. The employment of a funnel-shaped discharging chamber for the purpose, and rotating in the position above described, having spiral flanches, or their equivalents, inserted therein, and operating to arrest the two direct flow of the grain or seed, &c., through the discharger, and retaining it therein until the necessary centrifugal force is communicated to it before it leaves the discharger, as above described.

Third. The combination and use of the above described and above claimed tubular or funnel-shaped discharging chamber, rotating in the position above described, with the disk H placed and operating in the manner above described.

Fourth. The combination and use of the above described and above claimed tubular or funnel-shaped discharging chamber, rotating in the position above described, whether with or without the use of the disk H, with a hopper constructed of any proper material, and fitted with the slide *b* and rock shaft *c*, with teeth *d* attached, or their equivalents, and operating substantially in the manner above described, to feed the grain, seed, &c., into the discharging chamber.

CHARLES W. CAHOON.

No. 555.—*Improvement in Machinery for Separating Flour from Bran*.—We claim, first, the vertical or nearly vertical position of the bolt.

Second. A surrounding case forming a chamber or chambers around the bolt, substantially as and for the purpose specified, and provided with suitable means for the delivery of the flour, as specified.

Third. A rotating distributing head at or near the upper end of the bolt, substantially as described.

Fourth. Rotating beaters or fans within the bolt, substantially as and for the purpose specified.

We also claim, in combination with the first, second, and fourth features of the combination first claimed, the closed-up top of the bolt, except an aperture or apertures for the admission of the material and air, substantially as and for the purpose specified.

We also claim, in combination with the first, second, and fourth features of the combination first claimed, the closed-up bottom of the bolt proper, except an aperture or apertures for the discharge of the bran, substantially as and for the purpose specified, whether the said bottom be or be not specially provided with an aperture or apertures for the admission of air, as specified.

We also claim, in combination with the third combination claimed, or the equivalent of the features thereof, the employment of rotating arms or wings moving in close proximity with the inner surface of

the closed-up bottom, substantially as and for the purpose specified; and finally,

We claim the combination of all the features herein specified as essential features, substantially as described, or any equivalents for any or all the said features.

ISSACHAR FROST.
JAMES MONROE.

No. 556.—*Improvement in the Manufacture of India-rubber.*—I claim the combining of sulphur and India-rubber, or other vulcanizable gum, in proportions substantially as specified, when the same is subjected to a high degree of heat substantially as specified, according to the vulcanizing process of Charles Goodyear, for the purpose of producing a substance or manufacture possessing the properties or qualities substantially, such as described; and this I claim whether the said compound of sulphur and gum be or be not mixed with the other ingredients, as set forth.

H. B. GOODYEAR,
Administrator of Nelson Goodyear, deceased.

No. 557.—*Improvement in the Manufacture of India-rubber.*—I claim the new manufacture or substance herein above described and possessing the substantial properties herein described, and composed of India-rubber, or other vulcanizable gum, and sulphur, in the proportions substantially such as described, and, when incorporated, subjected to a high degree of heat, as set forth; and this I claim whether other ingredients be or be not used in the preparation of the said manufacture as herein described.

H. B. GOODYEAR,
Administrator of Nelson Goodyear, deceased.

No. 558.—*Improved Machine for Sowing Fertilizers.*—I claim the combination of two or more vertical shafts provided with arms, with the outlet tubes of a machine for sowing fertilizers, &c.; the whole being constructed, arranged, and operated in the manner and for the purposes substantially as set forth.

WARREN S. BARTLE.

No. 559.—*Improvement in Cooking Stoves.*—I claim the employment of the heat-equalizing chamber interposed between the fire chamber and the oven, substantially as described, when used in combination with and made to communicate directly with the flues below the oven, substantially as described and for the purpose specified.

AUSTIN BRONSON.

No. 560.—*Improvement in Sewing Machines.*—I claim imparting the necessary motion to the looper by means of thread, substantially as set forth.

T. J. W. ROBERTSON.

No. 561.—*Improvement in Cutting Device for Harvesters.*—I claim placing the blade or the cutting teeth of a harvesting machine on the vibrating bar to which they are secured, so that the said blade or cutting teeth may extend back and behind such bar, substantially in the manner and for the purpose specified.

HENRY GREEN.

No. 562.—*Improvement in Mowing Machines.*—I claim, first, a cutting apparatus behind the driving wheel of a machine adapted to mowing, when this is combined with a tongue or pole hinged substantially as described, and with proper means substantially such as described, for causing the cutting apparatus to run in close proximity with the ground, the whole combination being substantially such as and for the purposes set forth.

Second. I also claim arranging and combining the finger beam with the rear end of the main frame of the gearing in such manner that while the portion of the finger-beam to which the cutting apparatus is secured extends below the frame and may run close to the ground, the rear end of the frame will be carried above the stubble, and this relative position of the rear end of the frame of the finger-beam and of the ground will not be disturbed by the rising and falling of the finger-beam or the driving wheel to follow inequalities in the surface of the ground in their respective paths.

Third. I claim the combination and arrangement of a metallic shoe substantially such as herein described; the finger-beam and gearing frame substantially as herein set forth.

HENRY GREEN.

No. 563.—*Improvement in Reel Supports in Mowing Machines.*—I claim the method of supporting the reel upon the end of the finger-beam without obstructing the action of the divider by means of inclined arms, substantially as described.

HENRY GREEN.

No. 564.—*Improvement in Cutting Device for Harvesters.*—I claim, first, a vibrating cutter having any proper form of cutting edge in front and notched or indented in the rear thereof, in combination with guard-fingers, across which it vibrates, substantially as herein set forth; and,

Second. The combination of a cutting edge at the front of a vibrating cutter, for severing the stalks of grass or grain, with a cutting edge at the rear for cutting up and facilitating the discharge of obstructing matter, substantially as herein set forth.

HENRY GREEN.

No. 565.—*Improvement in the Mode of Connecting the Steam Cylinder with Steam Chests.*—I claim so constructing balance poppet-valve engine steam chests that a portion of the outside of the cylinder forms a portion of the inside of the chest, having the plates which contain the upper and lower valve seats cast directly upon the cylinder, sub-

stantially as described ; thus dispensing with the nozzle and nozzle flanges, and saving steam heretofore lost by reason of their interposition between the chest and cylinder, as described.

FREDERICK E. SICKELS.

No. 566.—*Improvement in Electro-Magnetic Alarms.*—I claim, first, the mode of breaking and completing the circuit, or *vice versa*, that is, by the spring circuit-breaker operating to cause the vibration of the armature.

Second. So combining a hammer and bell with the self-vibrating armature that the vibrations of the latter shall produce a continual ringing of the bell under circumstances substantially described.

Third. The combination of these parts, (*viz*: the circuit-breaker, hammer, bell, and vibrating armature,) or their equivalent or equivalents, with a self-acting spring or key in a door or window to operate so as not only to bring them automatically into action when the door or window is open, but maintain a continuous or continued ringing of the bell by the interruption of the electric current without intervention of other machinery.

AUGUSTUS R. POPE.

No. 567.—*Improvement in Sewing Machines.*—First. I claim the vibrating hook, or its mechanical equivalent, for holding down the thread during the partial passage of the shuttle through the loop, when arranged and operating substantially as set forth.

Second. I also claim, in combination with the vibrating hook, or its equivalent, the employment of two continuous rotary motions, one working the needle, the other the shuttle; and this for the purpose of producing sewing without any rest on either the shuttle or needle in their movements, thereby rendering a sewing-machine capable of rapid action, simple in construction, and noiseless in its operation, substantially as set forth.

CHARLES A. DURGIN.

No. 568.—*Improvement in Sewing Machines.*—We claim, first, a mechanism for making a stitch substantially such as is described, and consisting of an eye-pointed perforating instrument and a non-perforating eye-pointed instrument, operating substantially as specified.

Second. A stationary table or support for the material to be sewed, substantially such as specified, and performing the duties, substantially as set forth ; and,

Third. A feed, in which the cloth is grasped between two surfaces without being attached to either of them, substantially in the manner and for the purpose set forth ; meaning to claim as of our invention none of these elements severally or apart from the others, but only the three in combination.

W. O. GROVER.
WM. E. BAKER.

No. 569.—*Improvement in the Mode of Extracting Stumps.*—I claim the combination of the draught hook R, shears H, and pulley N, substantially in the manner and for the purpose herein set forth.

I also claim the application and arrangement of the links E E¹, or their equivalents, in combination with the lever A, so that the said links may alternately be put in connexion with the draught chain I by means of the two link hooks J and K, or their equivalents, substantially in the manner and for the purpose herein set forth and described.

W. W. WILLIS.

No. 570.—*Improved Method of Ventilating Ships, &c.*—I claim the ventilating of vessels, houses, rooms, or any other description of enclosed and covered spaces, by expelling the foul air combined therein, and by simultaneously introducing in its stead fresh air, cooled by a combination and arrangement of two sets of wings on one shaft acting simultaneously, substantially as described.

RUDOLPH KNECHT.

No. 571.—*Improvement of Machines for Marking Time of Attendance of Workmen.*—I claim the combination of a registering surface operated by clock-work, with markers so applied as to mark on said surface and indicate the presence or absence of the employé or workman at or from the period of time denoted by the position of the registering surface, as specified.

I also claim a perforated plate, in combination with a slide or its equivalent, whereby the presence or absence of the employé or workman, to whom each perforation is allotted, is indicated upon inspection by means of black and white or dissimilar colors exhibited behind said opening, as specified.

BENJ. T. HARRIS.

No. 572.—*Improvement in Sewing Machines.*—We do claim, first, in combination with an upper needle or eye-pointed perforating instrument, a non-perforating eye-pointed instrument so shaped and moved, substantially as specified, that it shall spread a loop of the thread it governs while advancing through the loop of the upper needle thread, substantially in the manner and for the purpose specified.

Second. We claim, in combination with an eye-pointed upper needle, a non-perforating instrument having the function, substantially in the manner specified, of carrying the loop of upper needle thread out of the location or position in which it was originally seized, for the purpose substantially as set forth.

Third. We claim, in combination with an eye-pointed perforating instrument, an eye-pointed non-perforating instrument, substantially such as is described, and performing the two offices of spreading a loop of its own thread while advancing through a loop of the upper needle thread, and of changing the locality of the loop of upper thread that it has seized, both offices being performed substantially in the manner and for the purpose herein before described.

Fourth. We claim an eye-pointed upper needle and an eye-pointed needle so arranged and operating as to make a stitch, substantially such as is herein represented, in combination with a feed apparatus, one surface of which has motion in four different directions, substantially in the manner and for the purposes described.

W. O. GROVER.

W. E. BAKER.

No. 573.—*Improvement in Sewing-Machines*.—I claim, first, in single thread sewing machines, a hook or looper, revolving in one direction only, being so constructed as to make a series of chain stitches, when operating in connexion with a reciprocating needle.

Secondly. I claim the peculiar construction, substantially as herein described, of a revolving hook whereby, while one loop is taken from the needle by the hook, spread, twisted, and held in the path of the needle until another or fresh loop is taken, the former loop shall be released and drawn up during the retreat of the needle.

JOHN H. RUCKMAN.

No. 574.—*Machine for Folding Paper*.—I claim, firstly, producing the fold over a stationary knife or straight edge by pressure upon the sheet when in contact with the knife edge, substantially as described.

Secondly. The use of nippers so constructed as to fold the sheet over the knife edge, seize it, and carry it to its proper position for receiving another fold, substantially as described.

Thirdly. The methods herein before described for releasing the sheet from the nipper.

Fourthly. The adjustable check and the mode of releasing its hold by the advance of the nippers, as set forth.

Fifthly. Attaching the stationary knives to the reciprocating carriage, as set forth.

Sixthly. The combination of the crank R, slotted connecting rod M, lever N, and link P, substantially as described, for operating the reciprocating carriage.

Seventhly. Hanging the cutting rollers on a bar vibrated and checked as herein described.

Eighthly. The arrangement of the T levers with the double concentric rock shafts, as herein before described, for operating the nippers from one cam, as set forth.

S. T. BACON.

No. 575.—*Improvement in Casting Skeins for Wagons*.—I claim, first, the combination of a whole thimble skein pattern *b* with a loose collar pattern *t* substantially as specified, and as shown in fig. 1, for the purpose specified.

Second. I claim, also, the vertical position of green sand cores for thimble skeins, when moulded and combined at their base with the mould, substantially in the manner specified, in combination with the adjusting top of the cores at S by the hand after the mould is completed, except the cope, whether core bars or their equivalents for that purpose are used, substantially as described and shown.

ANDREW LEONARD.

No. 576.—*Improvement in Continuous Sheet Metal Lathing Surface*.—I claim a closely united plaster-supporting metallic surface of substantially the shape herein described, when used in the construction of partitions, &c., which are designed to be fire-proof and burglar-proof.

JOHN B. CORNELL.

No. 577.—*Improved Omnibus Fare Box*.—I claim, first, the glass plates *i* and *f*, as arranged in connexion with the apron *m*, in the manner substantially as and for the purposes set forth.

Second. Closing the passage to the drawer below from the chamber above by means of an apron operated by a spring *S* in the manner substantially as set forth.

I. S. REEVES.

No. 578.—*Improvement in Reaping Machines*.—I claim the employment of the projecting ends of the reel ribs to effect the separation of the grain to be cut from that to be left standing in combination with a dividing apparatus, substantially as described, which effects a division of the grain to be cut from that to be left standing by forming an open space between the outer and inner grain for the ends of the ribs of the reel to act in, in which open space there is no reel post or other obstruction to prevent the free passage of the grain as it is brought back by the ends of the reel ribs to the platform of the machine, and by which means a separation of the inside grain to be cut from the outside grain to be left standing is made complete by the action and power of the reel, substantially as described.

C. H. McCORMICK.

No. 579.—*Improvement in Reaping Machines*.—I claim the downward curve or bend, substantially as described, of the bearers that support the cutting apparatus to facilitate the discharge of any clogging matter that may enter, as set forth.

C. H. McCORMICK.

No. 580.—*Improvement in Knife-Polishers*.—I claim, as the invention of Reuben Shaler, the combination of the hopper *B*, polishing surfaces *C* and *D*, and springs *E*, or their equivalents, substantially in the manner and for the purposes set forth.

WILLIAM H. HORSTMAN,
Assignee of Reuben Shaler.

No. 581.—*Improved Printing Press*.—I claim, first, the arrangement and combination of a rotating disk *W* with an annular ring or outside disk *X*, the two revolving, each in an opposite direction to the other, for the purpose of breaking up the ink, so that it shall by such contrary motions become evenly distributed, and thus imparted to the rollers, which ink the form of types.

Second. I claim the rollers *T*, "one or more being used," for inking the form, from the parallel position they necessarily assume for this purpose, changing to an oblique position, which shall give to them a lateral motion when in contact with the distributing disks, or some equivalent, for the purpose specified.

Third. I claim the arrangement of a form-bed which alternately varies its motions during its reciprocating movement, viz: first travelling under and in contact with a cylinder to give an impression, then being withdrawn from contact with the cylinder, and remaining with-

drawn during the return movement to prevent an impression, such bed reciprocating and at the same time alternating from one of these positions to the other, thus performing two separate and distinct motions entirely independent of and in a contrary direction to each other, while remaining in gear with the cylinder, when such bed shall be used with a cylinder, or its equivalent, having a part revolution with a reciprocating movement.

Fourth. I claim attaching to a reciprocating form or type bed an adjustable rack, as well as a stationary rack, which two racks shall play into gear upon a cylinder or segment of a cylinder, so that any and all wear or variation may at once be taken up by adjusting the movable rack, and by this means always cause the bed and cylinder, or segment of a cylinder, to work in harmony with each other, and produce a clear and sharp impression, free from slur.

Fifth. I do claim placing the bed, when used with a rotating reciprocating cylinder, or segment of a cylinder, which shall place or pile the sheets of printed paper upon the fly-board, as herein set forth and described.

GEO. P. GORDON.

No. 582 — *Improvement in Turning and Sliding Tables for Railroads.*—I claim interposing the central part or box between the ends of the truss rail beams in such manner as to make one of the width of said central part or box as a portion of the length of said beams, substantially as described, when the said beams and central box are so constructed and connected as to form a table entirely supported from the central part or box, substantially as described.

WILLIAM SELLERS.

No. 583.—*Improvement in Coffee-Pots.*—We claim the arrangement herein described whereby the steam from the boiler is discharged into the water from the condenser, which absorbs the aroma, in combination with the siphon for returning the contents of the condenser into the boiler, substantially as set forth.

CHARLES B. WAITE.
J. W. SENER.

No. 584.—*Improved Surface-Condenser for Steam-Engines.*—I claim, firstly, so enclosing the condensing surfaces of a surface-condenser within a tank, which is constructed to be capable of acting as a jet-condenser, that when the said surface-condenser shall become deranged by leaks or otherwise resort may be had to the jet-condenser, whereby condensation may be continued and the vacuum maintained, substantially as set forth.

Secondly. The combination of a surface-condenser with a box or case in such a manner that the condensation of the steam shall be effected therein without subjecting the said surface-condenser to atmospheric pressure, substantially in the manner described.

Thirdly. The aperture *w*, or its equivalent, for maintaining the vacuum, and as a passage for any steam which may remain uncondensed in the radiating condenser, as set forth.

Fourthly. Connecting the evaporator with the chamber *h*, substantially in the manner described, whereby the saturated water can be drawn off from the bottom of the evaporator.

JOSEPH P. PIRSSON.

No. 585.—*Improvement in Skirt-Hoops*.—I claim, first, connecting the hoops to each other by a series of loops, substantially as specified.

Second. Attaching to the hoops the tapes or other articles by which the hoops are suspended by means of metallic clasps which embrace the hoops, substantially as specified.

Third. Forming eyes in the braiding at the extremities of the hoops to serve as slides, substantially as specified.

DAVID HOLMES.

No. 589.—*Improvement in Watch-Cases*.—I claim, first, in reversing the inner case containing the works and dial in the outer case, to present the dial on either side.

I claim pivoting the inner case containing the works and the dial to the ring of the outer case, substantially as herein described, or by equivalent means, so that it can be reversed to present the dial in either direction without disconnecting from the outer case, as set forth.

WICKLIFF E. BALDWIN.
ELIHU BLISS.

No. 587.—*Improvement in Watch-Cases*.—I claim, first, attaching the pendant in double case watches permanently to the ring of the outer case, substantially as and for the purpose specified.

Second. Connecting the inner case with the ring of the outer case, so that the inner case containing the works and dial can be reversed and held within the ring of the outer case to exhibit either the back or the dial through the bizzle, and so that the inner case may be held in the ring of the outer case, independently of the closing of the outer case, as set forth.

Third. In reversing the inner case containing the works and dial, in the outer case to present the dial on either side, I claim shifting the dial one quarter of a circle, substantially as herein described, or by equivalent means, so that the figures of the dial may be properly located relatively to the pendant for either the ordinary open-face watch or the ordinary hunting watch.

Fourth. Forming the ring of the inner with a flange or rib, substantially as described, in combination with a corresponding flange, rib, or rest on the ring of the outer case, to give the required support to the inner case within the outer case when reversed to present the dial in either direction, as set forth.

WICKLIFF E. BALDWIN.
ELIHU BLISS.

No. 588.—*Improvement in Manufacture of Hard Rubber Goods*.—I claim the improvements in the hardening and vulcanizing of India-rubber or gutta-percha by which the manufacture of perfectly shaped articles may be facilitated, substantially as described.

GUSTAVUS CUPPERS.

No. 589.—*Improvement in Pumps*.—I claim, first, the combination and arrangement of the vertical central conducting pipe C, horizontal double-chambered or double-valved receiving and supplying cylinder E, two alternately reciprocating pistons or plunges F F, and piston connecting and guide-rods G G, substantially as and for the purposes set forth.

Second. Effecting the reciprocation of the piston or pistons F F by means of a curved inclined plane I arranged horizontally on the bottom of the well, substantially as and for the purposes set forth.

H. LINDSEY.

No. 590.—*Improvement in Harvesters*.—What is claimed as the invention of Nelson Platt, is:

First. Combining with a machine for cutting grain and gathering upon a platform a raking mechanism which at suitable intervals sweeps the grain off the platform, changes the direction of its stalks relative to the path of the machine, and discharges it upon the ground in gavels, substantially as herein set forth.

Second. The employment of a sweep or vibrating rake, operating in such manner that while sweeping the grain off the platform and discharging it upon the ground, it will change the direction of the stalks, as described.

Third. The method of vibrating a sweep-rake and turning its teeth in such a manner that they will pass over the grain, points foremost, at intervals to reach back and seize the grain and sweep it off the platform, whether the devices employed to effect the movements be such as described or others equivalent thereto.

Fourth. The method of holding a sweep-rake firmly while raking the grain with the points of its teeth in the proper position, relative to the platform, by means of a latch or other equivalent thereto, which, operating with a greater certainty than a weight, spring, or other fastening not rigid, more effectually prevents the rake-teeth from rising to override the grain, and at the same time avoids the necessity of moving a heavy weight, or of overcoming the tension of a strong spring in elevating the rake preparatory to its retrograde stroke.

Fifth. The construction and arrangement of a sweep-rake, and the mechanism for operating it, in such a manner that it is carried back and forth, and its teeth raised and lowered without support at the outer end.

Sixth. Changing the frequency of the alterations of the raking mechanism by means of the shifting gear or other equivalent devices for producing a varying rate of motion, for the purpose of varying the size of the sheaves as may be required, substantially as set forth.

WILLIAM H. SEYMOUR.

D. S. MORGAN.

No. 591.—*Improvement in Harvesters*.—What is claimed as the invention of Nelson Platt is, the combination of the vibrating sweep-rake with the lever carrying the same, vibrated by gearing located within the inner edge or circle of said platform, as herein set forth.

WILLIAM H. SEYMOUR.

D. S. MORGAN.

No. 592.—*Improvement in Harvesters*.—What is claimed as the invention of Nelson Platt is, constructing that portion of the platform of the reaping machine which is traversed by a rake working above it, with a solid floor so shaped as to allow the points of the teeth of the rake to move below the plane traversed by the grain, substantially as herein set forth.

WILLIAM H. SEYMOUR.
D. S. MORGAN.

No. 593.—*Improvement in Harvesters*.—What is claimed as the invention of Nelson Platt is, the combination of a vibrating sweep-rake, with a fence or guard to prevent the grain from being deflected from the path of the rake by centrifugal force, substantially as herein set forth.

WILLIAM H. SEYMOUR.
D. S. MORGAN.

No. 594.—*Improvement in Steam Boilers*.—I claim the arrangement of the tubes and the connexion of one or more receptacles, substantially such as herein described, for consuming the fine particles of coal which are carried by the force of the blast or draught from the fire-chamber into the flues, the said receptacle being placed below the bottom of the main flue, and communicating therewith, and between the fire-chamber and a check or deflector, or between checks and deflectors in the main flue, to check the momentum of the particles of coal, and cause them to drop into the receptacle to be consumed, substantially as described.

I also claim, in the construction of the boiler, substantially as herein described, forming a single flue in the middle for the passage of the products of combustion from the main flue surrounding the water tubes to the smoke-box, when this is connected with a check or deflector placed in the main flue among the water tubes, and in front of the said middle flue, substantially as described, to prevent the products of combustion from taking a direct course to the said middle flue, as described. I also claim arranging the bent up ends of the water tubes, where they are connected with the crown sheet of the furnace in a series of double longitudinal rows, and leaving spaces between the double rows of greater width than the external diameter of the water tubes, substantially as described, to admit of taking out and inserting the tubes, whilst in other respects the said tubes may be placed as near to each other as may be desired.

I also claim interposing the net-work or plate between the rear end of the flue and the smoke-stack and the exhaust pipe, as and for the purposes herein set forth; and I also claim combining with the deflector in the smoke-box the receptacle for the sparks or other fine particles of coal dust, substantially as herein described, for preventing the sparks from being consumed or accumulating in the smoke-box and interfering with the draught as herein set forth.

F. P. DIMPFL.

No. 595.—*Improvement in the Manufacture of Textile Hose*.—We claim the double tube or hose as a new article of manufacture, woven

in the manner and for the purposes specified; and this we claim, whether our new manufacture be used for hose, belting, card clothing, shoe soles, harness pads and traces, or any other purpose.

LINUS B. COOLEY.

SAMUEL BABCOCK.

BENJAMIN G. COOLEY.

No. 596.—*Improved Sidewalk Pavement*.—I claim giving such a shape to the within described street-gutter, section *b*, that its under surface will securely embrace the top of the wall *d*, whilst its upper surface at the same time forms a portion of the street-gutter, and also a firm supporting base for a section *c* of street curbing or its equivalent, substantially as represented in the accompanying drawings and herein set forth.

I also claim forming a sidewalk pavement of a series of metallic plates *a a*, when the said plates are combined with or form portions of sections of metallic street curbing, substantially as herein set forth.

JOHN B. CORNELL.

No. 597.—*Trap for Catching Flies*.—We claim the combination of the wheel or cylinder having the rotary motion, with the box or case, for the purposes herein set forth.

JOEL B. FULLER.

GEORGE W. PIERCE.

No. 598.—*Improvement in Cartridges*.—I claim making the cartridge case, or at least the cylindrical portion thereof, of some impermeable and elastic substance, such as India-rubber or gutta-percha, substantially as above described, so that it may be expanded laterally by the force of the explosion of the charge, and will contract itself, after the explosion, by its own inherent property.

GILBERT SMITH.

No. 599.—*Improvement in Sewing Machines*.—I claim, first, so arranging and operating a looper, or its equivalent, that it shall derive its motion from the movement of the needle, as described.

I also claim moving the looper up to and away from the needle, substantially in the manner specified.

T. J. W. ROBERTSON.

No. 600.—*Improvement in Sewing Machines*.—I claim clamping the thread of the needle at the downward or advancing movement of the needle by means that are operated intermittingly, substantially as and for the purposes herein set forth.

I also claim combining with the clamping means, as herein described, a set-screw or its equivalent, for adjusting the clamping means, so that the tightening of the stitch may be regulated to the degree desired.

I also claim the combination of the drag bar *T* attached to the shuttle, and containing the eye *j* through which the thread passes therefrom, the spring *K* for throwing the said bar into a position to

prevent the delivery of the thread from the shuttle, and the adjustable liberating piece U for preventing the delivery of the thread from the shuttle and allowing the desired quantity to be given out.

I also claim constructing the shuttle in two parts, viz: the shell and cap, of which the latter is inserted into and withdrawn from the former, as described.

JAMES HARRISON, Jr.

No. 601.—*Improvement in Hoisting Winches for Shipboard.*—I claim the construction and use of winches whose bosses or drums, turned by cog-wheels, operate in connexion with certain sheaves, wheels, or pulleys for carrying, operating, and sustaining the fall or tackle used in hoisting or lowering the sails or cargoes of vessels on shipboard, substantially as herein described and for the purposes set forth.

J. BRYANT.

No. 602.—*Improvement in Railroad Cars for Day and Night Service.* I claim, 1st. The employment of the movable backs of car seats, when used for the purpose of filling up the spaces between the seats, so that a bed may be formed, and this I claim whether accomplished in the manner herein shown, or in any other manner substantially the same, whereby the same result is accomplished.

2d. The within described method of forming and concealing when not in use, in the spaces between the windows, an upper tier of beds, as set forth and for the purpose specified, and also the same in arrangement with the device constituting the subject of the first claim.

J. B. CREIGHTON.

No. 603.—*Improvement in the Manufacture of Sulphuric Acid.*—I claim the process of treating native metallic sulphurets or arseno-sulphurets in connexion with the substances above described, in order to expel all or part of the sulphur arsenic, for the purpose of obtaining therefrom sulphuric acid, and the metals as sulphates or oxides.

ALFRED MONNIER.

No. 604.—*Improved Shingle Machine.*—I claim, first, the use of a set of two or more froes, arranged substantially as hereinbefore described, for the purpose of riving two or more bolts from the block of wood at the same time, thus preventing the tendency of the wood to eat out or split too thin at one end, or at either side.

Second. The use of brace bars or their equivalents, so arranged in combination with the froes that the froes will increase themselves between them; thus securing the perfect separation and delivery of the bolts from the block.

Third. The use of sliding side pieces L L with converging slots c c, in combination with the upright grooves d d in the frame in which the wrists of the shaving knives are inserted, for the purpose of effecting the gradual approximation of the shaving knives in the proper taper of the shingles.

Fourth. The combination of the lever P with its pin R, the pro-

jecting cam S, and cam *g*, on the frame L L, for the purpose of communicating the requisite relative motion to the vibrating feed board O, the driver N, and frame L L, whereby one bolt only at a time of the two, three, or more riven by the froes is driven outward and forced through the shaving knives, no matter how short or thin the bolt may have been froed.

JAMES CRARY.

No. 605.—*Improvement in Magnetic Printing Telegraph*.—I claim, first, the employment of force, derived from an electro-magnet, to govern and regulate a force derived from the use of compressed air or other fluid, substantially in the manner and for the purpose specified.

Second. I claim an electro-magnet constructed substantially as described; that is to say, when made up of a series of hollow stationary and moving magnets, arranged substantially as specified, so as to effect the movement of a rod or axis on which the latter are mounted, substantially in the manner set forth.

Third. I claim a valve, substantially such as is specified, in combination with any electro-magnet to move that valve, and a piston or its equivalent, whose motions are effected by the pressure of air or fluid, whose action is controlled by such a valve; the combination being substantially such as is specified.

Fourth. I claim an endless band, acting as a reservoir of coloring matter, and arranged substantially in the manner and for the purpose specified, in combination with paper and a series of types and a spurred cylinder, so as to record characters when pressure is applied.

Fifth. In combination with a key-board at one locality and a printing apparatus at another, or in combination with both a key-board and a printing apparatus at each locality, I claim a detent or stop, moved by the hand of the operator, for arresting the motion of a type-wheel at one determined and fixed point, when there is combined therewith a key corresponding, when the parts are in proper position with that determined and fixed point; the detent and key being substantially such as specified.

Sixth. I claim driving a type-wheel of a printing apparatus by means of a friction connexion, substantially such as is described, between it and a prime mover, so that the motion of the former may be modified or its motion stopped without causing the motion of the latter to be stopped or modified.

Seventh. I claim combining with a wheel of a printing telegraph, which must at times stop and at other times be in motion, a spring compressed by the action of the parts when in motion, and exerting its force to start the wheel when released from any detent that may arrest its rotation, the combination being substantially such as to effect the purpose set forth, substantially as described.

Eighth. I claim causing the paper to be printed to approach the type which is to impress it by means of a friction connexion with a prime mover, so that the latter may remain in motion while the former is at rest, substantially in the manner set forth.

Ninth. I claim the apparatus substantially as herein set forth for governing the approach of paper to a type-wheel that at times moves and at other times stops, so that the apparatus which brings up the

paper shall act for that purpose when the type-wheel ceases to revolve for a longer period than usual.

Tenth. I claim, in combination with a type-wheel of a printing telegraph, a spurred or toothed cylinder, substantially such as is specified, the latter causing the paper to progress as the purposes of printing by the types *m* the former may require, substantially as set forth; and this I also claim in combination with another surface substantially such as is specified, to press the paper upon such spurs in the manner substantially as described.

ROYAL E. HOUSE.

No. 606.—*Improvement in Metallic Packing for Steam Pistons*.—I claim the bent or folded springs inserted between the piston and packing ring, and taking an even and extended bearing around the interior circumference of said packing ring to cause the said packing ring or rings to take an uniform bearing on the interior of said cylinder, substantially as set forth.

I also claim two or more tiers of packing springs placed between the piston and the rings as aforesaid, when the said tiers of springs are so placed as to occupy alternate positions as break joints, as set forth.

DANIEL LASHER.

No. 607.—*Improvement in Cleansing Sugar*.—What is claimed as the invention of Joseph Hurd, deceased, is, first, the process of separating sugar from any liquid matters with which it may be mixed by filling the mixed mass into a vessel, constructed substantially as described, and there acting upon the same by centrifugal force, substantially in the manner specified.

Second. Is claimed as the invention of Joseph Hurd aforesaid the washing of impurities out of the sugar by admitting a liquid into a vessel, substantially as described, in which sugar is being exposed to the action of centrifugal force, as specified.

Third. I claim as the invention of Joseph Hurd aforesaid the process, herein described, of obtaining a mass of sugar freed from liquid impurities by filling the mixed mass into the top of a vessel, constructed substantially as described, and having a closed bottom, and there exposing the mass to the action of centrifugal force, and then withdrawing the sugar out of the upper end of said vessel when separated, the whole as specified.

And lastly, I claim the process of obtaining a mass of washed sugar by charging sugar into the top of a vessel, constructed as specified, with a closed bottom, and then exposing such sugar to the action of centrifugal force, and while so exposed admitting currents of liquid to wash the sugar; and finally withdrawing the washed sugar out of the top or upper end of the vessel, the whole process being substantially as specified, and being claimed by me as the invention of the said Joseph Hurd, deceased.

FRANCIS P. HURD,
Administrator of the estate of Joseph Hurd, deceased.

No. 608.—*Improvement in Manufacture of Paper from Wood.*—We claim the pulping or disintegrating of shavings of wood, and other similar vegetable matter for making paper, in the manner substantially as herein described, according to the nature of the vegetable substance to be treated.

WM. F. LADD.
MORRIS L. KEEN.

No. 609.—*Improved Wear-Iron for Carriages.*—I claim the construction of carriage or other vehicle bodies with a “metallic recessed guard,” constructed and arranged in the body of the vehicle, substantially as described for the purposes set forth.

J. GEORGE LEFLER.

No. 610.—*Improvement in Dry Gas Meters.*—I claim fastening the diaphragms to the partition plate, and on either side thereof, in contradistinction to attaching them by separate flange rings to the sides of the meter, and at or near the front and back thereof.

I also claim the arrangement of pendant rods or levers, with suitable guides, near the outer edges of the disks, on opposite sides of their axis, to steady and direct the motion of the movable partitions, as shown and described.

And I further claim containing the inlet and outlet pipes, down the sides of the rectangular case, below the points required for passage of the gas to and from the meter, to form separate condensation chambers, as specified.

And I likewise claim enclosing, by a separate interior cover or case, the valves of the meter for protection of the operating and registering gear from gas to facilitate adjustment, substantially as set forth.

A. ANGUS CROLL.

No. 611.—*Improvement in Chairs.*—I claim the new manufacture of chair back, composed of a convex faced, solid block of wood D, and a single metallic support rod C, they being constructed and applied together, and to the chair seat essentially as specified.

And I also claim making the back rest D, oblong or oval, when made to rotate in manner and for the purpose as specified.

JAMES FERNALD.

No. 612.—*Improvement in Bolting Flour.*—I claim, first, the cast heads or annular rings C C, figures 1 and 3, with the flange and hubs substantially as described, or any mechanical equivalent therefor, when used in connexion with wire cylinder or circular wire bolt.

Second. In combination with claim first, the cylindrical journals *a a*, with figures 6 and 7, or their equivalents, by means of which the bolt revolves in or on a support inside the space for admitting the feed, instead of on the outside as in the English bolt.

Third. The combination of the cards or metal points *d* and brushes *e*, attached to bars *b* of the inside cylinder, for the purpose set forth.

Fourth. The spout P P, when arranged in relation to the cylinder

or bolt A, and used in connexion with said cylinder or bolt A, and the inside brush cylinder, as and for the purpose specified.

EDWARD BRADFELD.

No. 613.—*Improvement in Sewing Machines*.—I claim the formation of sewing in cloth or other material by the interlooping of two threads by the conjoint action of two needles, in such manner that each needle shall be made to carry a loop of thread through a loop formed by the other needle and through the cloth, whereby one thread serves as a binding thread to the other, substantially in the manner described.

I also claim moving the cloth to be sewed by a needle or its equivalent, operating substantially as herein set forth, to pierce the cloth and move it the necessary distance required to form successive stitches.

SHERBURNE C. BLODGETT.

No. 64.—*Improved Ventilating Attachment to be Applied to Pumps*.—I claim the arrangement and combination of the perforated base D, cap G, and perforated tube *g*, or their equivalents, with the pump barrel A, as herein set forth, whereby the ventilator becomes attached to and forms a part of the pump, all as herein specified.

GEORGE C. KING,

Assignee in full of C. N. Lewis and G. C. King.

No. 615.—*Improvement in Elliptic Cushion for Railroad Cars*.—I claim, first, the local relation and mode of application of the semi-elliptic buffer to any and all cars wherever applied, in such manner as is represented by the letters B, and for the purposes set forth.

Second claim. The combination and arrangement of the elliptic cushion for easing of collisions, as described and arranged in every part thereof in the frame work, as represented by the letters A, and operating substantially in such manner and wherever applied to cars, as described, and for the purposes set forth.

SAMUEL R. JONES.

No. 616.—*Improvement in the Mode of Generating Heat*.—I claim the adaptation of, or rendering available, tar, as a fuel for the production of the intense and steady heat required for the melting of glass and for other processes and manufactures, by introducing water or the vapor of water into a furnace or fireplace, in contact, combination with, or in close proximity to the tar, substantially as herein set forth.

THOMAS R. HARTELL.

No. 617.—*Improvement in Sewing Machines*.—We claim the combination of mechanism substantially such as is herein described, so that the cloth or other fabric to be sewed, being placed upon the machine, will be automatically fastened on to the feeding apparatus, carried forward to receive the stitches, and discharged from the feeding apparatus, substantially as herein described, and so that seams of any desired length may conveniently be sewed.

ISAAC M. SINGER.

EDWARD CLARK.

No. 618.—*Improvement in Corn Harvesters*.—We claim, first, the rotary arms *p*, in combination with an eccentric guide *g*, substantially in the manner and for the purpose specified.

Second. The employment of a double series of cutters for cutting stock and stump, as described.

R. C. MAUCK.

W. T. MCGAHEY.

No. 619.—*Improved Furnace for Burning Bagasse*.—What is claimed as the invention of Alfred Stillman is—

Firstly. The employment, in connexion with the boilers or other vessels of a sugar plantation which require heat, and with the mill for expressing the juice from the cane, of a furnace, constructed substantially in the manner herein set forth, capable of burning wet bagasse without the aid of other fuel than the bagasse itself, and capable, also, of utilizing thereby said bagasse as a generator of heat for said vessels, as described.

Secondly. Combining the cane-mill with a furnace, constructed as herein described, by means of the endless carrier, in the manner and for the purposes substantially as described.

ELIZABETH ANN HARRIS,
Late ELIZABETH ANN STILLMAN,
Administratrix, &c.

No. 620.—*Improvement in Treatment of Caoutchouc*.—I claim running the heat for vulcanizing flexible and elastic hard gum compounds through the range of temperature, and the comparatively great length of time, substantially as set forth—that is to say, commencing the heat at about 275° , and carrying the same to 300° and upwards, substantially as described.

I also claim making, as described, the flexible and elastic hard gum composition of two parts, by weight of rubber or other vulcanizable gum and one part of sulphur, when such composition is preparatory to the running of the heat, as described in the specification.

I also claim equalizing the temperature in the heating apparatus by mechanical means, substantially as set forth.

AUSTIN G. DAY.

No. 621.—*Improvement in Automatic Steam-Whistles in Locomotives*. I claim, 1st. Giving audible indications of the approach of the train of cars to persons at the stations or other points on the route by an arrangement of means interposed between the truck wheels and whistle, and which are actuated by the truck wheels, substantially as herein set forth.

2d. Combining with the means for giving audible indications other means for giving visible indications to persons charged with the care of the train, both sets of means being actuated by the truck wheels, as herein described.

3d. Varying or modifying the tones or sounds of the whistle by the form and surface of the lifters and their arrangement and position upon the cylinder, as herein set forth.

JAMES HARRISON, Jr.

No. 622.—*Improvement in Stoves*.—I claim the non-radiating combustion chamber, with a contracted orifice or throat, producing a plenum in said chamber, in combination with a fire box or pot, and with an exterior chamber surrounding said combustion chamber, and from which exterior chamber the heat is taken by radiation or conduction, as set forth.

JOSEPH C. HENDERSON.

No. 623.—*Improvement in Seed Planters*.—I claim, in combination with a corn planting machine, that is constantly moved over the ground and drops the grain intermittently, the so combining of two slides—one of which is at or near the seed hopper, and the other at or near the ground, or their equivalents—with a lever, so that the operator or attendant on the machine can open said slides at the proper time to deposit the seed and prepare a new charge, by the double dropping herein specified.

JARVIS CASE.

No. 624.—*Improved Printing Press*.—1st. I claim the use of rotating reciprocating nippers for such purpose, when used either separately or in combination with a rotating reciprocating fly.

2d. I do claim relieving the sheet from the type, and taking the sheet directly from the platen, or either of them, with or by the same nippers, which shall carry such sheet to its place of deposit or piling.

3d. I claim giving with one inking cylinder two distributions to the inking rollers for each impression, viz: One distribution prior to passing the form, and one distribution prior to the return of the form to its first position.

4th. I claim the arrangement of the spring, connecting rod, crank, and stops, as described, to operate the bed and give the necessary dwell for the impression.

GEO. P. GORDON.

No. 625.—*Improvement in Grinding Mills*.—I do claim the improved method described of securing the runner stone on the driving spindle in a grinding mill, by means of a metallic band, or its equivalent, embracing the periphery of the stone, by combining said band with a hub and a back plate of at least as great diameter as the runner and rigidly attached to the spindle, such combination operating to secure the stone firmly in its place, in the manner and on the principle substantially as specified.

EDWARD HARRISON.

No. 626.—*Improvement in Wood Screws*.—What is claimed as the invention of Thomas J. Sloan is, first, making the core with a conical point, substantially as described, in combination with a body of cylindrical form or nearly so, substantially as and for the purpose specified.

Second. Making the core with a conical point, substantially as described, in combination with the thread formed on such conical point of a gradually less depth as it approaches the apex of the core, and

with the several convolutions on the conical point and on the body at equal distances apart, substantially as and for the purpose specified.

Third. Making wood screws with the core of a conical shape along that part of the length of the screw extending from where the thread begins on the shank to where it becomes of full depth, substantially as and for the purpose specified.

Fourth. Making wood screws with a core of a cylindrical or nearly cylindrical form, and with a conical point in combination with the thread of equal pitch along the conical point and body, that is, with all the convolution at equal distances apart and of gradually less depth from the base to the apex of the core, substantially as described.

EAGLE SCREW COMPANY, [L. S.]

Per WILLIAM G. ANGELL, *Agent*.

No. 627.—*Improvement in Reducing the Friction of Journals of Axles on Railways*.—I claim as the invention of Leon Joseph Pomme de Mirimonde, the arrangement of the semi-boxes for resting on the journals of the friction rollers within the upper part of the main journal box, and entirely enclosed within the said main box, substantially as herein described, in combination with the axle journal on which the rollers rest to sustain the load as described.

I also claim taking the lubricating matter from the lower part of the main box and applying it to the journals of the rollers by the projections at the ends of the axle journals.

I also claim the method of lubricating the journals of the rollers, and the periphery of the axle journal and the rollers, by the projections on the axle, which in rotating take the lubricating matter from the reservoir in the main box and apply it to the journals of the rollers above, that the drippings therefrom may lubricate the periphery of the rollers and axle journal, substantially as described.

JAMES H. DEMING.

No. 628.—*Improvement in Watch Cases*.—I claim arranging the push piece which passes through the pendant, substantially as described, in combination with the pin *h*, and so to operate the spring catch to the closed bizzle of the outer case when the face of the watch is in either position, as set forth.

I also claim arranging the case of the watch which contains the movement and which carries the dial within a surrounding ring or rim so that it can be twined within the said ring and in the plane thereof, substantially as described and for the purpose set forth.

I also claim arranging the journals by which the body of the watch is attached to an outer case and on which it turns when reversed, so as to leave the works of the watch free to be shifted in its surrounding ring, substantially as described.

ELIHU BLISS.

No 629.—*Improvement in Saw-Mills*.—I claim so guiding the movements of the saw as to cause it to advance in the line of its plane as it descends, for the purpose of properly distributing amongst the teeth of the said saw the cutting action, which may be exerted thereby upon the material operated upon, substantially as herein set forth.

I also claim arranging the ways of the saw-gate in such a manner with relation to the feeding apparatus that the amount of feeding movement imparted to the carriage will always be in perfect harmony with the amount of cutting action exerted by the saw, substantially as herein set forth.

I also claim arranging the compound parts of my improved saw-mill in such a manner that the amount of cutting action exerted by the saw can be speedily varied whilst it is in motion, from its maximum performance down to nothing, and vice versa, substantially as herein set forth.

HAZARD KNOWLES.

No. 630.—*Improved Churn*.—I claim expressing the butter from the globules or sacks of milk or cream by friction, such as rubbing, mashing or grinding, when accomplished in any manner equivalent to that herein specified.

JAMES MACNISH.

No. 631.—*Improvement in Felting for Coats, Hats, &c.*—I claim the above described method of manufacturing articles of wearing apparel, of which wool or other similar animal fibric constitutes a larger part, as above set forth, substantially in the manner and for the purposes herein described.

MARMADUKE OSBORNE.

No. 632.—*Metal Tips for Toes of Boots and Shoes*.—I claim my within described metallic tips, constructed in the manner and for the purposes fully set forth.

I also claim, as a new article of manufacture, a metallic tipped boot or shoe, constructed substantially in the manner and for the purposes fully set forth and described.

GEORGE A. MITCHELL.

No 633.—*Improvement in Pistols and other Fire-Arms*.—I claim extending the rear end of the dog or catch *c* rearward, and beyond where it is jointed to the tumbler of the percussion hammer, and connecting the upper end of the main-spring directly to the part so extended, or otherwise connecting the main-spring to the dog and trigger, substantially as described, the same being for the purpose herein before specified; also the arrangement of a mechanism in connexion with a self-cocking arrangement, whereby I am enabled to make the fire-arm so as to be cocked at pleasure by the hammer, or be operated entirely by the trigger as a self-cocker; said mechanism consisting of the stud *d*, and the dog or catch *c* in connexion with the tumbler, as described, or their equivalents, whereby the same results are obtained.

Also the piece of metal *g* as combined with or applied to the seer of the trigger and in front of the notch thereof, and hook of the catch *c*, and operating upon and in relation thereto in the manner and for the purpose as hereinbefore explained.

Also my new and peculiar arrangement of the pitman upon the seer of the trigger, (so as to operate as above described, in combination

with the construction and arrangement of the teeth upon the breech or rear end of the cylinder or series of barrels,) by which improvement, in constructing or arranging the aforesaid parts, I am enabled to very much simplify them in comparison with the manner in which they have heretofore been made and disposed.

ETHAN ALLEN.

No. 634.—*Improvement in Corn-Planters*.—I claim, first, operating the seed valves *a b* from the traction wheels *A A* by means of the rods or weights *G H*, and cams *M N*, arranged substantially as and for the purpose set forth.

Second. The agitator *g*, arranged with relation to the seed boxes and valves, substantially as set forth.

Third. The rib *b* attached to the upper valve, constructed and operating as shown and described for the purpose stated.

Fourth. Combining with one of the weights which operate the valves, or its equivalent, a cam-shaped gear-wheel, corresponding in form with the cams which operate said weights, substantially as and for the purpose set forth.

Fifth. Extending the chains which operate the valves down under the pulleys *d'* back of the axle, so as to obviate the slackening and taking up of the chain by the vibrations of the ploughs *D* and their attachments, as set forth.

NATHANIEL DRAKE.

No. 635.—*Improvement in Organs*.—I claim the combination or arrangement and connexion with the keys of a mechanism which shall enable the extreme key touched on either side, or both, when operating itself, shall prevent all the others from operating, in the stop or stops connected therewith, in the manner and for the purposes as above set forth and described.

And I also claim, in combination with a wind chest, operating substantially as above described, the employment of auxiliary bellows connected and combined with the main bellows and pedals, substantially as and for the purposes described.

And I also claim combining and operating the escape valve by means of friction on the arm, or its equivalent, in the manner and for the purposes above set forth and described.

WILLIAM SUMNER.

No. 636.—*Improvement in the Manufacture of Elastic Cloth*.—What is claimed as the invention of Richard Solis is the new elastic cloth herein described, consisting of a woven textile material (or cloth) having the threads of the warp oblique to the weft combined with gum arabic or india rubber, so that the two constitute an elastic compound fabric.

HORACE G. DAY.

No. 637.—*Improvement in Reaping Machines*.—I claim the combination of the support or stand for the raker, placed behind the axis of the reel, balanced or sustained with the raker thereon by the driving

wheel, with the reel and with the short platform, substantially as described.

Also, I claim combining with the side draft reel reaping machine, having a reel for gathering the grain to the platform, a stand or seat for the raker fixed firmly upon the platform of the machine, so as to enable the raker securely to get at the grain as deposited on the platform by the reel and deliverer, and lay it properly on the ground from a single or short platform, out of the return track of the horses, in suitable gavels for being bound into sheaves, substantially as herein described.

And I also claim the combination of the reel for gathering the grain for the cutting apparatus and depositing it on the platform with the stand or support for the raker, constructed and arranged substantially as described, or the equivalent thereof, to enable him with ease and celerity regularly to remove the grain from the machine and lay it on the ground, out of the return track of the horses.

And I also claim the construction of the stand or support for the raker on the frame or platform of the machine, substantially as described, so that it gives to the raker such lateral and forward support to his body when standing at work that he may have free use of his arms and the upper part of his body to remove the cut grain from the platform, while at the same time he is so held fast that he cannot be thrown upon the reel nor prevented from performing his functions by the jostling of the machine as it moves over the uneven ground.

C. H. McCORMICK.

No. 638.—*Improvement in Shears*.—I claim the construction of scissors or shears with their blades in separate pieces from the handles, and fitted to the handles with stems and sockets, substantially as and for the purposes herein set forth.

JOSEPH A. BRADEN.

No. 639.—*Improvement in Looms for Weaving Figured Fabrics*.—I claim combining with hook jacks which are connected with the harness, and with the mechanism for operating them to open the shed, substantially as described, a pattern chain or cylinder constructed with two or more patterns, and operated so that either of the patterns can be made to act on the hook jacks to place them in the required position to be operated upon by the mechanism for opening the shed, substantially as described.

I also claim, in combination with a pattern chain arranged with two or more patterns in the direction of its length, the mechanism, substantially such as herein described, for changing the movements of the chain to effect the changing of the pattern, as described.

I also claim placing two or more patterns upon the rods of a pattern chain side by side, and operating them in succession by vibrating the chain laterally, in the manner substantially as described.

I also claim pivoting the lifting and depressing rods G P at one end, the other being made adjustable, in the manner and for the purpose set forth.

And I also claim moving the rods or jacks out of contact with the

rollers on the pattern chain before the chain is moved, by means of what are termed the vibrating fingers, or the equivalents thereof, substantially as described.

GEO. CRAMPTON.

No. 640.—*Steam Stove*.—I claim combining two or more concentric chambers, connected together and arranged in respect to each other substantially as herein set forth, with a boiler attached to an ordinary stove, for the purpose specified.

J. L. SUTTON.

No. 641.—*Improvement in Machinery for Cutting Screws*.—What is claimed as the invention of the said Thomas W. Harvey, the combination and arrangement of two inclined rollers, one or both rotating and placed at a sufficient distance apart to permit the shanks of the blanks to hang therein freely suspended by their heads, substantially as described, and for the purpose of arranging the blanks (when presented in a promiscuous mass) all in a row with their heads up, and causing the row to travel towards the lower end and to be delivered one by one, as set forth.

Second. Combining with the delivery end of the inclined rollers, or equivalent ways, for supplying the blanks in order, a delivery and check slide and a receiving and conducting tube, or equivalent therefor, substantially as described, to receive the blanks from the row, deliver them one by one, and conduct them to the place where they are required for after operations, and at the periods required, as set forth.

Third. Combining with the receiving and conducting tube, substantially as described, a transferer or equivalent therefor, substantially such as described, to receive the blanks from the conductor and transfer them to the mandrel or place where they are to be subjected to the cutting action, as set forth.

Fourth. Combining with the mandrel or spindle, and with suitable means for holding the screw blanks in line, substantially as described, a sliding turn screw and spring, or equivalent therefor, substantially as described and for the purposes set forth.

Fifth. Governing the motions of the chaser toward and from the axis of the blank, by combining the chaser head with a carriage and sway bar moved by a cam, substantially as described, and also connecting one end of the sway bar with an adjusting slide when this is combined with a chaser or chaser head as described, whereby the amount of taper to be given to the screw can be regulated at pleasure.

Sixth. Changing the directions of the various cam grooves by means of sliding switches operated by sliding rods within the hollow cam shafts, and shifted by an index cam, by which the various changes of the motions of the machine are effected, substantially as described.

And finally. Making the cam which operates the saway bar adjustable on its shaft, substantially as described, for the purpose of adjusting the motions of the chaser to the length of the blank to insure the proper formation of the point of the screw, as described.

H. A. HARVEY,
Assignee.

No. 642.—*Improvement in Gas Burners.*—I claim, first. The flame spreader consisting of the ring pieces *g g*, extending outwardly from the gas orifice, substantially in the manner and for the purposes set forth.

Second. I claim the heater *c*, combined with the jet gas burner, substantially in the manner and for the purpose herein set forth.

Third. I claim combining with the jet gas burner a draft cone *j*, the top of which terminates at or near the level of the gas orifice, as set forth.

A. H. WOOD,
By J. R. FOSTER,
Assignee of the whole.

CLAIMS OF ADDITIONAL IMPROVEMENTS GRANTED DURING THE YEAR 1857.

No. 184, to original Letters Patent No. 15,654.—*For Improvement in Ploughs.*—I claim the adjustable axle *H*, with angular journals *C H'*, and adjusting arms *I I'*, in combination with the stirrup or standard *D*, rotary mould-board *G*, and ground propelling or driving wheel *N*, as and for the purpose herein set forth.

B. C. HOYT.

No. 185, to original Letters Patent No. 16,681.—*For Improvement in File Cutting Machines.*—I claim the application of a convex bed-face or its equivalent, to the upper side of the cutting bed of file machines.

ISAAC H. COLLAR.

No. 186, to original Letters Patent No. 17,992.—*For Improved Machine for smoothing Planed Wooden Surfaces.*—I claim substituting the plane-iron *a*³ for the scraper *n* in the block *U*, in the manner and for the purpose substantially as set forth.

BAXTER D. WHITNEY.

No. 187, to original Letters Patent No. 16,040.—*For Improvement in Cider Mills.*—I claim, first, preventing the apples from passing in an uncrushed state from the hopper into the grinding chamber by means of a joint action of the comb *S*, and the division-plate *t*, arranged in relation to the stationary teeth *f*, in the concave *A*, and the double series of rotating teeth *d* and *e*, and the cylinder *g*, substantially as herein set forth.

I also claim extending the length of the grinding chamber beyond the series of teeth *f* in said chamber, and then combining a clearing cam *r*, with the correspondingly elongated end of the cylinder *g*, substantially as herein set forth.

BENJAMIN MACKERLEY.

No. 188, to original Letters Patent No. 17,754.—*For Improvement in Covering for Drawing Rolls.*—I claim the employment of gutta percha in combination with black lead as a material for draught rolls, as set forth.

JOS. M. SMITH.

No. 189, to original Letters Patent No. 12,408.—*For Improved Millstone Dress for Hulling Rice.*—I claim the bedstone with radial and curved furrows as specified when combined with a runner stone having the curved furrows, substantially the same as in the before mentioned letters patent.

CHAS. R. BARNES.

No. 190, to original Letters Patent No. 16,910.—*For Improved Bullet Mould.*—I claim, first, the plate D, with the permanent core *f*, in combination with the jaws A B, and the screw *l*, operating in the slot *g*, substantially as described.

Second. The blade E, constructed as above described in combination with the handle C, and the screws *m p*, the whole substantially in the manner and for the purpose above specified.

HENRY L. DE ZENG.

No. 191, to original Letters Patent No. 18,090.—*For improvement in Life-Preserving Berths for Steam and other Vessels.*—I claim the addition of the adjustable inflated angular side air chambers to the inflated keel life-preserver berths, in the manner and for the purpose as herein set forth and described.

ELBRIDGE FOSTER.

No. 192, to original Letters Patent No. 18,635.—*For improvement in Lime Kilns.*—We claim the combination of the transverse partition M, with the oblong inverted pyramidal basin B, oblong stack E, and enlarged draft flues L, when said flues are used as auxiliary furnace doors, the whole being arranged substantially as and for the purposes set forth.

POWELL GRISCOM.
CHARLES S. DENN.

No. 193, to original Letters Patent No. 15,060.—*For improvement in Cutting Flour Mill.*—I claim the doubly conical concavity in, and cutting ridges on, the face of the cutter-head, arranged and acting as described, in combination with the concavity and ridges of the counter plate, for the purpose specified.

I also claim extending the ridges B B inward beneath the feeding aperture of the counter-plate, in combination with the inner conical concavity of the cutter-head and with the counter-plate, substantially as and for the purpose herein set forth.

JONATHAN BURDGE.

No. 194, to original Letters Patent No. 19,427.—*For improvement in Steam Ploughs.*—I claim the placing of clearers S S in connexion

with the off bearing wheel B of my steam plough, in such a manner that the one will fill back the furrow that the other has opened, they being arranged, constructed, and operated substantially in the manner and for the purpose herein described and set forth.

PIERCE KLINGLE.

No. 195, to original Letters Patent No. 18,779.—*For improvement in Clasps for Metallic Hoops.*—I claim bending the ends of the clasp across the apertures *b* and *c*, so as to present an opening in the clasp for the insertion of the bent ends of the bands at right angles, or nearly so, to the direction in which the bands are inserted in the clasp, in the manner and for the purposes described.

JAMES R. SPEER.

No. 196, to original Letters Patent No. 8,236.—*For improvements in Hanging Carriage Bodies.*—I claim the combination and arrangement of the disk or fifth wheel D, attached to the front axle; the embracing circularly-flanged annular disk F with its laterally projecting arms or trunnions, to which they are attached the bars or spring levers K, so as to preserve the horizontal position of the fifth wheel while allowing the necessary play of the said bars, in the manner herein described.

J. M. JONES.

No. 197, to original Letters Patent No. 18,150.—*For improvement in Automatic Railroad Car Brake.*—I claim the arrangement of parts herein described, or its equivalent, for the simultaneous compression of the forward and rear springs and the consequent operation of the brakes, the same consisting in the combination of the lever L, with the slide bar B and pushing rods D D, constructed, arranged, and operated substantially in the manner specified.

W. R. JACKSON.

No. 198, to original Letters Patent No. 18,557.—*For improvement in Hand Printing Press.*—I claim, first, the fountain cup *o*, combined with the inking table *g*, in substantially the manner and for the purposes specified.

Second. I claim the joint 16 formed by the half pieces attached to the pressure block *b* and bed *a*, when connected by the horizontal screw and used for adjusting the press block *b* to the printing surface and securely retaining the same in place, substantially as and for the purposes specified.

Third. I claim, in combination with the hand printing lever *d*, the frame *p* to receive types, secured and acting substantially as specified.

SAMUEL J. SMITH.

No. 199, to original Letters Patent No. 19,343.—*For improved Rotary Blast-producing Chair.*—I claim the arrangement of the two bellows, one of which on the front and the other on the back part of the rocking chair; and the use of the "S" formed levers placed parallel to the rockers, the parts constructed and arranged substantially as and for the purpose specified.

LEOPOLD R. BREISACH.

No. 200, to original Letters Patent No. 19,721.—*For improvement in Tightening the Tires of Carriage Wheels.*—I claim the ends B and C of the tire, with their respective slotted blocks *b* and *c*, the taper keys and the bolt G, when arranged for joint operation, substantially as and for the purpose herein set forth.

ROBERT B. SCOTT.

No. 201, to original Letters Patent No. 12,502.—*For Polishing apparatus for Watchmakers' Lathes.*—I claim the construction and arrangement of the polishing apparatus combined with the latter, as and for the purposes specified.

JAMES M. BOTTUM.

No. 202, to original Letters Patent No. 17,906.—*For improved Shingle Machine.*—I claim the levers L and L¹, as described, and the detents D and E, in combination with notched piece O, trip R, and laterally adjustable trip piece H, arranged and operating substantially as and for the purpose set forth.

ELBRIDGE WEBBER.

No. 203, to original Letters Patent No. 17,297.—*For Trap for Animals.*—I claim the application of the solid rod or slide A substantially as herein described, to be used when required in the place of and in addition to the spring sliding-rod and fangs, as claimed in my original patent of May 12, 1857; also the method of converting the trap into a pistol or manual fire-arm in the manner substantially as herein described.

FREDERICK REUTHE.

No. 204, to original Letters Patent No. 20,765.—*For Improvement in Revolving Fire-Arm.*—I claim the construction and use of the trigger, the slot *f*, also the feather *g* with the pin *p*, substantially as described and for the purposes set forth in the within specification.

F. D. NEWBURY.

No. 205, to original Letters Patent No. 19,242.—*For Improvement in Corn-Planters.*—I claim, first, the rib *b* attached to the upper valve constructed and operating as shown and described for the purpose stated.

Second. Extending the chains which operate the valves down under the pulleys *d*¹ back of the axle so as to obviate the slackening and taking up the chains by the vibrations of the ploughs D and their attachments as set forth.

N. DRAKE.

No. 206, to original Letters Patent No. 14,912.—*For Improved Swing-Bolt for Fastening Shutters.*—I claim the attachment J, fig. 4, substantially as described, when used in combination with the lever C¹, hub E, and catch-plate D, for the purpose set forth.

J. GUNNER, Jr.

No. 207, to original Letters Patent No. 18,779.—*Improvement in Clasps for Metallic Hoops.*—I claim the use of a clasp for metallic bands, constructed as herein before described, having a single aperture only for the insertion of the hooked ends of the band, the plate of iron of which it is formed being bent across the aperture so as to present a sufficient opening for the ready insertion of the hooked ends of the bands, in the manner herein before described.

JAMES R. SPEER.

No. 208, to original Letters Patent No. 20,785.—*For Improved Method of Attaching Lamps to Lanterns.*—I claim the improved arrangement herein before described, the same consisting in the attachment of the spring D and clips E E to the lamp case instead of the lantern, as and for the purpose specified.

JOHN FLEMING.

No. 209, to original Letters Patent No. 12,823.—*For Improved Propeller.*—I claim the wings W W, made up of a series of horizontal hinged valves, graduated in width as described, in combination with the cylindrical section E, either hollow or solid, substantially as and for the purpose set forth.

HENRY LINK.

No. 210, to original Letters Patent No. 18,410.—*Improvement in Cotton-Gin Feeders.*—I claim the endless toothed apron B, revolving adjustable toothed bar C, rotary brush and toothed cylinder D, and grating E, combined and arranged substantially as and for the purpose set forth.

JEDEDIAH PRESCOTT.

No. 211, to original Letters Patent No. 21,318.—*Improved Rotary Pump.*—I claim operating three or more pairs of sliding valves in said pump by means of the joint action of the rotary valve-box *b* and the three-sided stationary cam *f*, substantially as herein set forth.

LEVI BURNELL.

No. 212, to original Letters Patent No. 19,754.—*Improvement in Manufacture of Soap.*—I claim using the refuse of Indian corn, as described above, and mixing it with a fat or oil and an alkali, and with or without resin, and amalgamating the same to make soap, as set forth above.

I claim subjecting the refuse of Indian corn, as described above, to an alkali with or without heat and modifying the strength of the alkali, when too strong and not required, by an acid, and for the purpose of mixing it more easily with the soap.

D. CRAWFORD.

No. 213, to original Letters Patent No. 20,109.—*Improved Brick Machine.*—I claim the covering of the drying rollers B with some non-conductor of heat, or material having less conductive properties than the metal, to prevent the caking or uneven drying of the size in the warps, as described.

WM. BRADLEY.

No. 214, to original Letters Patent No. 21,536.—*Improvement in Car-Seats and Couches.*—I claim the use of the adjustable back-pad or equivalent, and combining therewith the adjustable head-rests, as set forth, for the purposes indicated.

ALEX. M. HOLMES.

DISCLAIMERS ENTERED DURING THE YEAR 1858.

Letters Patent 18,979, dated December 29, 1857.—*For an Improved Hoe.*—Now, therefore, I, the said Lothrop, do hereby make my disclaimer to a hoe made of separate triangular blades *disconnected* together, and each supported by a separate prong of a furcated shank, intending to confine my claim to an improved manufacture of hoe, as made with triangular teeth or blades *connected* at their inner corners, and each supported by a separate prong of a furcated shank.

H. A. LOTHROP.

Letters Patent 3,566, dated April 25, 1844.—Extended for seven years from April 25, 1858.—*For Metallic Laths for Fire-proof Ceilings of Houses.*—Your petitioner therefore hereby enters his disclaimer, thereby making the claim in the said patent read as follows, viz: What I claim as my invention, and desire to secure by letters patent, is the within named method of constructing metallic laths either of iron or any suitable material; also the constructing of ceilings by running the laths diagonally across the room, so as to be least affected by the expansion, all of which is fully set forth in the annexed specification and drawings. But the above I only claim when the aforesaid metallic laths are so arranged and combined with their supporters as to leave open spaces between said laths for the mortar to pass through and back upon the inner surfaces of the same.

PALMER SUMNER.

Letters Patent 11,819, dated October 17, 1854.—*Improvement in Vessels for Holding Liquids.*—Your petitioners have by assignment become the owners of all the right, title, and interest in said invention, as secured by said letters patent.

Your petitioners hereby enter their disclaimer to so much of the first claim of said patent as may include the application of the double wall to other structures or vessels than ice pitchers. Such disclaimer is to operate to the extent of the interest vested in your petitioners.

SOPHIA E. STIMPSON.

JULIA M. COLBURN.

EDMUND FLETCHER COLBURN.

CLAIMS OF EXTENSION GRANTED DURING
THE YEAR 1858.

Letters Patent No. 3,410, dated January 20, 1844.—Re-issue No. 485, dated August 11, 1857.—*Improvement in Boot Crimps*.—I claim the manner of arranging the block A and clasps C, so that the turning up of the straining screw shall at the same time perform the double operation of confining the ends of the leather between the block and clasp and of stretching the leather over the boot-form; the whole being substantially as above specified.

J. M. READ.

Letters Patent No. 3,421, dated January 31, 1844.—Re-issue No. 469, dated June 9, 1857.—*Improvement in Ships' Blocks*.—We claim passing the straps through grooves in the inner faces of the cheeks of the blocks, as herein described.

ISAAC D. RUSSEL.
CORNELIA WATERMAN, for
STEPHEN WATERMAN.

Letters Patent No. 3,444, dated February 20, 1844.—*Improvement in Straw Cutters*.—I claim the combination of the guard H with the curved knife and arm, constructed and operating for the purpose above described and set forth.

H. M. SMITH.

Letters Patent No. 3,469, dated March 9, 1844.—*Improvement in Machinery for Folding and Measuring Cloths*.—I claim the mechanism by which the folders are elevated and depressed, the same consisting of the pulley L, cam lever S, bent rods P P, chain or band N, and parts as before described, as combined with each other and applied to the folders and sweeps, and operating substantially as herein before set forth.

Also the mechanism by which the cloth is introduced into the machine and the overlap of the first fold produced, the same consisting of the endless bands *r r*, with their pulleys and shafts arranged substantially as described, and cross-bar *s*, or machinery of similar character, in combination with the depressing bar *y*, the whole being for the object and purpose as herein before defined.

Also my peculiar method of feeding the cloth into the machine so as to present it to the action of the folders as required by them, and with little or no strain upon them, viz: by supporting the cloth on one or more horizontal rods or shafts *w v*, placed above the folders, in combination with giving to the surface of the feed roller *a*¹ a motion sufficiently increased beyond that of the folders, to cause that part of the cloth which is between the supporting rod or rods and the feed roller to be loose or hang down in proper quantity to readily yield

to the irregular motion of the folders over the platform, caused by the cranks of the shaft which operates the sweeps of the said folders.

SILAS C. DURGIN.

Letters Patent No. 3,493, dated March 16, 1844.—*Improvement in the Manner of Suspending, Opening, and Closing Lock-Gates.*—I claim suspending and opening and closing gates for locks and other places by means of the aforesaid combination and arrangement of the inclined post E, rod G, swivel H, stirrup I, and hog-chains K, and the triangular hinged lever L, segment-way N, cord O, pulleys R, and windlass S, by which the expense of construction is reduced, and the old railway and rollers at the bottom of the lock, and the chains for opening and closing the gates placed in the water, where they are subject to constant oxidation and breaking, and where they cannot be reached without much difficulty when out of order, are entirely dispensed with.

HENRY McCARTY.

Letters Patent No. 3,523, dated April 4, 1844.—*Improvement in the Truss Frames of Bridges.*—We claim the above described method of constructing a truss, that is to say, the combination of two diagonal tension braces and straining blocks in each panel of the truss frame of a bridge, by means of which the camber may be regulated so as to increase or diminish it, either in whole or in sectional part of the bridge, the whole being constructed and operating substantially as hereinbefore set forth.

THOMAS W. PRATT.
CALEB PRATT.

Letters Patent No. 3,541, dated April 17, 1844.—*Machinery for Splitting Leather.*—I claim the arrangement herein before specified of the gauge and feed-rollers of a leather-splitting machine, so that the bilge of the lower side, or the axis of the former, shall be directly over or in the same vertical plane with the edge of the knife, while the axis of the latter is a little distance out of the vertical plane, and its upper bilge is a little above the level of the edge of the knife, for the purposes recited in the foregoing specification.

HUBBARD HARRIS,
Administrator of Alpha Richardson, deceased.

Letters Patent No. 3,561, dated April 25, 1854.—*Improvement in Hay Presses.*—I claim connecting the feet of the platen rods E E with the platen or follower by means of links or other contrivances of similar character, the object of the said links being to permit the lower ends of the rods to be moved laterally from the ends of the bale, as set forth.

JOSEPH EATON,
Administrator of Charles F. Paine, deceased.

Letters Patent No. 3,566, dated April 25, 1844.—*Metallic Laths for Fire-Proof Ceilings of Houses.*—I claim the within named method of

constructing metal laths either of iron or any other suitable material; also the constructing of ceilings by running the laths diagonally across the room so as to be least affected by the expansion, all of which is fully set forth in the annexed specification and drawings.

PALMER SUMNER.

Letters Patent No. 3,633, dated June 15, 1844.—*Improvement in Process for the Manufacture of India-Rubber*.—Re-issue No. 156, dated December 25, 1849.—I claim the curing of caoutchouc, or India-rubber, by subjecting it to the action of a high degree of artificial heat, substantially as herein described and for the purpose specified.

And I also claim the preparing and curing the compound of India-rubber, sulphur, and a carbonate or other salt or oxide of lead, by subjecting the same to the action of artificial heat, substantially as herein described.

CHARLES GOODYEAR.

Letters Patent No. 3,633, dated June 15, 1844.—*Improvement in Felting India-Rubber with Cotton Fabric*.—Re-issue No. 157, dated December 25, 1849.—I claim incorporating the fibres of cotton or other substance with India-rubber by passing the fibres of a fleece or bat of cotton or other fibrous substance into a sheet of India-rubber in the green state, without subjecting the fibres, after they have been incorporated, to a stretching or drawing operation, substantially as herein described.

CHARLES GOODYEAR.

Letters Patent No. 3,648, dated July 1, 1844.—Re-issue No. 533, dated March 2, 1858.—*Improved Machine for Making Barrels and other Casks*.—I claim the vibratory block or bed D, adjustable gauge C, and knife or cutter B, arranged relatively with each other, so as to operate as and for the purpose set forth.

ISAAC CROSSETT.

Letters Patent No. 3,324, dated November 6, 1843.—*Improvement in Type-Casting Machines*.—I claim, first, the male plate *n* constructed with a nipple protruding beyond its back surface and springs attached to the plate, arranged and operating in the manner and for the purpose set forth.

Second. I claim the method of opening and closing the mould and tilting the matrix by the combination and arrangement of the compound vibrating arm H and lever J, arm M and N, and spring *v*, said lever J having a simultaneous vibrating movement on an axis on the vibrating arm H, in the manner and for the purpose set forth; and this combination and arrangement I claim, whether effected precisely in the manner here set forth or in any other manner substantially the same by which analogous results are produced.

Third. I claim the adjustable mould block *o* combined with the vibrating arm H, for the purpose herein set forth.

Fourth. I claim the combination of the adjustable frame *h* with the

lower adjustable mould-block *o*, in the manner and for the purpose set forth.

Fifth. I claim the combination of the circular collar, perforated with a rectangular opening in the centre to admit the rectangular shaft or stem of the upper mould-block, with the hinge-piece *i* and adjustable frame *h*, in the manner and for the purpose set forth.

Sixth. I claim the manner of supplying the melted metal to the mould by a horizontally and vertically perforated piston placed below the level of the bottom of the metal pot, arranged and operated in the manner set forth, by which the metal is forced into the mould at a lower temperature than heretofore effected, and the metal remaining in the mouth of the female plate (after the type has been cast) is drawn back into the seat or chamber of the piston as the piston rises, by which the mouth of the female plate is prevented from being stopped or choked by congealed metal.

Seventh. I claim the combined arrangement of these several parts, namely: the lever *a*, cam *V*, spring *d*, rod *b*, and vibrating beam *E*, by which the piston is operated, as possessing advantages above set forth.

Eighth. I claim placing the vibrating mould-arm *H* between the furnace and the propelling or cam-shaft, as described.

DAVID BRUCE, JR.

Letters Patent No. 3,704, dated August 14, 1844.—Re-issue No. 349, dated February 5, 1856.—*Improved Tonguing and Grooving Machine*.—I claim giving a lateral movement to either edge of the cutters by any suitable arrangement of mechanical devices, while the board is being fed through the machine, so as to adapt the edge-cutter to any taper of the board.

Second. I claim arranging the box or bearing of the shaft of either of the edge-cutters, so as to slide laterally on a rail, and connecting said box or bearing to a sliding guide-bar *d*¹, which bar is governed or regulated in its movements by the edge of the board and kept up against said edge by means of a weight operating on it, (so as to press it laterally,) through the medium of a rack and pinion, as herein before set forth, the mechanical arrangement and operation being substantially as herein above specified.

Third. I claim the combination of the sliding bolts *r*¹ *s*¹ with the turning rod *o*¹ *o*¹, (having right-angular arms *n*¹¹ *n*¹ *p*¹ *p*¹), and pawl *l*¹ and ratchet-wheel *K*¹ on the end of the shaft, which the weight *i*¹ turns or revolves; said combination being arranged substantially as herein before set forth, and for the purpose of permitting or checking the operation of said weight *i*¹ upon the sliding guide-bar *d*¹, as herein before specified.

CHARLES W. BROWN.

Letters Patent No. 3,700, dated August 10, 1844.—*Improvement in the Method of Making Cast-Iron Railroad Car Wheels*.—I claim the casting of such a wheel with a single continuous plate or disk uniting the chilled rim to an undivided hub, said plate being so formed as that a plane bisecting the wheel in its axis shall present a waved line,

or one having a convexity on each face of the wheel, in the manner herein described and represented and for the purpose set forth.

EBENEZER A. LESTER.

Letters Patent No. 3,737, dated September 14, 1844.—*Improvement in the Method of Applying Circular Saws for Cutting off Piles under Water.*—I claim the sliding saw in combination with the scow or other floating body, for the purpose herein before specified.

ERASTUS E. COLE.

Letters Patent No. 3,772, dated October 3, 1844.—Re-issue No. 607, dated September 29, 1858.—*Improvement in Cleansing Sugar.*—What is claimed as the invention of Joseph Hurd, deceased, is, first, the process of separating sugar from any liquid matters with which it may be mixed, by filling the mixed mass into a vessel constructed substantially as described, and there acting upon the same by centrifugal force, substantially in the manner specified.

Second. I claim as the invention of Joseph Hurd, aforesaid, the washing of impurities out of the sugar by admitting a liquid into a vessel, substantially such as described, in which sugar is being exposed to the action of centrifugal force, as specified.

Third. I claim as the invention of Joseph Hurd, aforesaid, the process herein described of obtaining a mass of sugar freed from liquid impurities by filling the mixed mass into the top of a vessel constructed substantially as described, and having a closed bottom, and there exposing the mass to the action of centrifugal force, and then withdrawing the sugar out of the upper end of said vessel when separated, the whole as specified.

And lastly. I claim the process of obtaining a mass of washed sugar by charging sugar into the top of a vessel, constructed as specified, with a closed bottom, and then exposing such sugar to the action of centrifugal force, and, while so exposed, admitting currents of liquid to wash the sugar; and finally, withdrawing the washed sugar out of the top or upper end of the vessel, the whole process being substantially such as specified, and being claimed by me as the invention of said Joseph Hurd, deceased.

FRANCIS P. HURD,

Administrator of the estate of Joseph Hurd.

Letters Patent No. 3,784, dated October 9, 1844.—Re-issue No. 167, dated May 7, 1850.—*Improvement in the Method of Rendering Lard.*—I claim the above described apparatus, for extracting or rendering lard, &c., by the action of high-pressure steam, combining with a steam-tight tank, substantially such as herein described, and provided with one or more discharge holes for the discharge of the residuum, and with a perforated steam pipe at the bottom for the induction of high pressure steam, a perforated false bottom above the steam pipe to sustain the charge under the weight and pressure, substantially as described, to admit of and insure the free passage of the steam through the charge, and also the free descent of the water of condensation, as described.

I also claim, in combination with the tank, substantially such as herein described, the employment of one or more try cocks near the top thereof, and a regulating discharge cock at or near the bottom, substantially as herein described, for the purpose of ascertaining when too much water of condensation has accumulated and to discharge the same, to retain a sufficient space above for steam to insure the passage of steam through the charge, as described.

And finally, I claim, in combination with a tank, substantially such as herein described and for the purpose specified, the employment of a series of discharge cocks arranged at different levels, substantially as described, for the purpose of drawing off the rendered lard, &c., as it floats on the water of condensation, and thus insure the separation of the pure lard, &c., from all foreign substances, when this is combined with the relief or discharge cock X, substantially as described.

CHARLES WILSON,

Administrator of Ebenezer Wilson, deceased.

Letters Patent No. 3,802, dated October 19, 1844.—*Improvement in the Method of Opening and Closing the Valves of Steam-Engines.*—I claim, first, my improvement in the periods of the movements of the valves, by which they are opened and closed, relatively to each other, and to the movement of the piston, by means of which the piston completes each stroke in equilibrium, or nearly so, without admitting steam against the movement of the piston by a lead to the steam valve; which is effected, as before stated, by opening the lower exhaust valve before the end of the upward stroke of the piston and before the upper exhaust valve is closed, and opening the upper exhaust valve before the end of the downward stroke of the piston and before the lower exhaust valve is closed; the movement of the steam valves being so regulated as to admit steam to the cylinder only after the exhaust valve on the corresponding end of the cylinder has been closed.

I also claim, as my next improvement, and as a means of carrying into effect my first and essential improvement, the arrangement of the toes of the rock-shaft in such manner, relatively to the location and form of the feet of the lifting rods, that at the middle; or nearly so, of the rocking motion of the rock-shaft both lifting rods, with their exhaust valves, shall be partly up, as herein described; and I also claim, in combination with this arrangement, the slip of the lifters on the steam valve stems, as described, to insure the closing of the exhaust valves before the opening of the steam valves on the corresponding ends of the cylinder, as herein described.

FREDERICK ELLSWORTH SICKELS.

CLAIMS OF PATENTS FOR DESIGNS GRANTED
DURING THE YEAR 1858.

No. 973.—*Design for Stoves*.—I claim the configuration and arrangement of ornamental figures, forms, and mouldings, herein described and shown in the annexed drawings, the whole constituting a design for a parlor cooking stove.

N. S. VEDDER.

No. 974.—*Design for Cook Stoves*.—We claim the combination of ornamental figures and forms represented in the accompanying drawing, forming together an ornamental design for the plates of a cooking stove.

GARRETTSON SMITH.
HENRY BROWN.
S. H. SAILOR.

No. 975.—*Design for Stoves*.—I claim, 1st. The ornamentation and the ornamental design and configuration of the front and back plates.

2d. The ornamental projection C covering the fire-brick in or near the centre of the front and back plates, it forming a projecting ring around the stove.

3d. The ornamental flanch *bb*, running vertically along the division of the front and back plates, it forming an ornamental finish.

4th. The ornamental design of the top and bottom plates, all united to form an ornamental stove, as described and represented in the drawing.

CHAS. J. SHEPARD.

No. 976.—*Design for Stoves*.—I claim the ornamental design herein described and fully represented in the annexed photographic drawing, for a stove plate.

DAVID HATHAWAY.

No. 977.—*Design for Stoves*.—I claim the design for a door of a stove, as herein described and shown in the annexed photographic drawing.

DAVID HATHAWAY.

No. 978.—*Design for Stoves*.—I claim the ornamental design above described and shown in the annexed photographic drawing, for the base of a stove.

DAVID HATHAWAY.

No. 979.—*Design for Stoves*.—I claim the ornamental design for a door of a cooking stove, herein described and shown in the annexed photographic drawing.

DAVID HATHAWAY.

No. 980.—*Design for Stoves*.—I claim the ornamental design and configuration of the several plates of a cooking stove, herein described and fully represented in the annexed photographic drawings.

PETER A. PALMER.

No. 981.—*Design for Tea Service*.—I claim the design as represented and described.

HENRY G. REED.

No. 982.—*Design for Stoves*.—We claim the ornamental design herein described and shown in the annexed drawing, for the front plate of a parlor stove.

N. S. VEDDER.

EZRA RIPLEY.

No. 983.—*Design for Stoves*.—We claim the ornamental design herein described and represented in the annexed photographic drawing, for a door of a cooking stove.

N. S. VEDDER.

WM. L. SANDERSON.

No. 984.—*Design for Stoves*.—We claim the ornamental design herein described and represented in the annexed drawings, for the upper and for the lower side plates of a parlor stove.

N. S. VEDDER.

WM. L. SANDERSON.

No. 985.—*Design for Types*.—I claim the design of the said type, as described and shown.

GEORGE BRUCE.

No. 986.—*Design for Stoves*.—I claim the new design for a parlor cooking stove, consisting of the vine and leaf work, &c., herein above described and represented in the drawings.

A. C. BARSTOW.

No. 987.—*Design for Stove Plates*.—We claim the shield in intaglio, as herein set forth.

E. J. DELANY.

JOHN MARTINO.

No. 988.—*Design for the Handles of Spoons, &c.*—We claim the use of the combination of the scroll leaf with the single marginal thread and heavy raised oval border for the shield plate, substantially as described, for ornamenting the handles of spoons, forks, and other articles.

HENRY HEBBARD.

JOHN POLHAMUS.

No. 989.—*Design for Tables for Sewing Machines*.—I claim the peculiar ornamental design or configuration of each and all the parts

of the table as exhibited in the accompanying drawings, and as above explained.

S. F. PRATT.

No. 990.—*Design for Compass Stands*.—We claim the design of the pillar A A A, as herein described and represented in the accompanying drawings.

EDWARD A. TUTTLE.
THOMAS BARRY.

No. 991.—*Design for Tea and Coffee Pots*.—I claim the shape of the body and the configuration and ornamentation of the upper and lower rims, the feet, the handle, the spout and the tip, combined as herein described and represented in the drawing, to produce an ornamental design for a tea or coffee pot.

ALLEN LEONARD.

No. 992.—*Design for Stove Plates*.—We claim the ornamental design for a stove plate, herein described and represented by the annexed photographic drawing.

N. S. VEDDER.
EZRA RIPLEY.

No. 993.—*Design for Carriage-Hub and Bands*.—I claim the curved form or ornamental configuration of carriage-hubs and bands, herein described and represented in the annexed drawing.

JAMES IVES.

No. 994.—*Design for a Copying-Press Stand*.—I claim the within described press-stand foot consisting of the harp or vase-shaped figure formed by the two reverse curved bands A A, with the shell B, the two figures C C, and the joining scrolls *m m m m*, all supporting and connected with each other, and forming one harmonious design as represented.

CHARLES H. CLAYTON.

No. 995.—*Design for Legs and Posts of Iron Bedsteads*.—I claim my design for feet and posts for iron bedsteads, consisting of the described scroll-work, standard and brace, with a praying angel kneeling between the latter, for the posts of iron bedsteads, and the figure of an eagle with outspread wings resting upon arabesque scroll-work, and carrying a corresponding capital on its head and the ends of the wings for the centre feet as represented.

JOHN P. KOCH.

No. 996.—*Design for Cook Stoves*.—We claim the combination and arrangement of figures, forms, and mouldings, herein specified and represented in the annexed photographic drawing, forming the ornamental design of the plates or castings of a cooking stove.

GEORGE W. PITTOCK.
GEORGE G. RICHMOND.
CHARLES PHELPS.

No. 997.—*Design for Screens for Steam Pipes, &c.*—I claim the configuration of the plates herein represented, for the purpose of a screen for steam pipes and other similar purposes, as represented and explained in the drawings.

JAMES L. JACKSON.

No. 998.—*Design for Screens for Steam Pipes, &c.*—I claim the ornamental plates herein shown and represented by the drawings, for a screen for steam pipes or other similar purposes.

JAMES L. JACKSON.

No. 999.—*Design for Cook Stoves.*—We claim the external configuration of the above described stove.

R. WHEELER.
S. A. BAILEY.

No. 1,000.—*Design for Clock-Case Fronts.*—I claim the combination of the octagonal rim A with the metal matting C in the formation of a design for clock-case fronts, as described and shown.

SAMUEL B. JEROME.

No. 1,001.—*Design for Tool Boxes.*—I claim the attachment to a box of the particular prints representing my inventions, as shown in the drawings and on the box.

HERRICK AIKEN.

No. 1,002.—*Design for Cook Stoves.*—We claim the general design and configuration.

THOMAS H. WOOD.
JOHN E. ROBERTS.
HENRY S. HUBBELL.

No. 1,003.—*Design for Cook Stoves.*—I claim the ornamental design and configuration of the plate, such as herein described and shown in the accompanying drawings, of an elevator oven stove.

S. W. GIBBS.

No. 1,004.—*Design for Parlor Stoves.*—I claim the design and configuration of the ornamental plates of a parlor stove, as herein described.

S. W. GIBBS.

No. 1,005.—*Design of Stove Doors.*—I claim the ornamental design as combined and shown in the specification and drawings.

JACOB BEESLEY.

No. 1,006.—*Design for a Set of Printing Types.*—I claim the design of the said type, as described and shown.

GEORGE BRUCE.

No. 1,007.—*Design for Towel Stands.*—I claim such design, as represented and described.

NATH'L WATERMAN.

No. 1,008.—*Design for Aquariums*.—I claim the ornamental design for an aquarium, called “the marine world,” herein described and represented in the accompanying drawing.

A. L. BLANCHARD.

No. 1,009.—*Design for a Font of Types*.—I claim the design of the types, as described and shown in the “characters” of the accompanying types and printed sheet.

JAMES CONNER.

No. 1,010.—*Design for Cook Stoves*.—We claim the combination and arrangement of ornamental figures and forms, represented in and by the accompanying drawing, as forming together an ornamental design for the front and two sides of a cooking stove.

EDWARD J. DELANY.

JOHN MARTINO.

No. 1,011.—*Design for an Ornament in Bass-Relief for Stoves, &c.*—I claim the said design or ornament, as shown in the drawing.

GEORGE F. SEAVEY.

No. 1,012.—*Design for Sewing-Machine Stands*.—I claim the combination and arrangement of ornamental figures and forms, represented in and by the accompanying drawing, as forming together an ornamental design for a part of a sewing-machine stand.

JAMES WILCOX.

No. 1,013.—*Design for Stove Doors*.—I claim forming configurations and mouldings on the door plates of stoves of the style and form described, for the purpose of giving a simple and chaste ornamental appearance to the same.

REUBEN H. N. BATES.

No. 1,014.—*Design for Printers' Types*.—I claim the design of the said type, as described and shown.

GEORGE BRUCE.

No. 1,015.—*Design for Stove Plates*.—I claim the ornamental design and configuration of the plates of a six plate stove, substantially as herein set forth and shown in the annexed drawings.

S. W. GIBBS.

No. 1016.—*Design for Stoves*.—I claim the combination and arrangement of ornamental figures and forms, represented in and by the accompanying drawing, forming together an ornamental design for the front and side plates of a cooking stove.

JAMES HORTON.

No. 1,017.—*Design for Stoves*.—I claim the combination and arrangement of the ornamental figures and forms, represented in and by the accompanying drawing, as forming together an ornamental design for plates of a cooking stove.

JOSEPH A. REED.

No. 1018.—*Design for Cook Stoves*.—We claim the combination of the ornamental figures and forms, represented in and by the accompanying drawing, forming together an ornamental design for the plates of a cooking stove termed the “Lehigh.”

GARRETTSON SMITH.
HENRY BROWN.

No. 1,019.—*Design for Cooks' Stoves*.—We claim the combination of the ornamental figures and forms represented in and by the accompanying drawing, forming together an ornamental design for the plates of a cooking stove termed the “medallion.”

GARRETTSON SMITH.
HENRY BROWN.

No. 1,020.—*Design for Types*.—I claim the design of the types, as described and shown in the “characters” of the accompanying types and printed sheet.

JAMES CONNER.

No. 1,021.—*Design for Printers' Types*.—I claim the design of the types, as described and shown in the characters of the accompanying types and printed sheet.

JAMES CONNER.

No. 1,022.—*Design for Printers' Types*.—I claim the design of the types, as described and shown in the characters of the accompanying types and printed sheet.

JAMES CONNER.

No. 1,023.—*Design for Range Fronts*.—I claim the new design for the front plate of a range, consisting of the ornamental configurations, as herein described and represented in the drawings.

A. C. BARSTOW.

No. 1,024.—*Design for Bedsteads*.—I claim so displaying and arranging the several decorations over the foot, head, and middle posts of children's iron bedsteads, as to produce the new and ornamental design described and represented.

HEINRICH NEIDIG.

No. 1,025.—*Design for Bedsteads*.—I claim forming bed posts with the configuration and embellishments disposed and arranged to form a new and ornamental design, substantially in the manner before described and represented in the drawings.

HEINRICH NEIDIG.

No. 1,026.—*Design for Cooks' Stoves*.—I claim the several plates with their ornamental figures and forms, represented in and by the accompanying drawing, and forming together an ornamental design for a cooking stove.

EDW. J. DELANY.

No. 1,027.—*Design for Stoves*.—I claim the ornamental design of the plates A B C D and E of an elevated oven cooking stove, as herein described and shown in the annexed photographic drawings.

N. S. VEDDER.

No. 1,028.—*Design for Pitchers*.—I claim giving ice and other pitchers the configurations, flutings, embossings, and embellishments before described, so as to produce a new and ornamental design, symmetrical in its character, and of a chaste and harmonious appearance.

GEO. W. SMITH.

No. 1,029.—*Design for Stoves*.—We claim the design, configuration, and arrangement of the several ornamental castings, as herein before described and set forth in the drawings, as constituting a new and original stove design.

GERRETSON SMITH.
HENRY BROWN.

No. 1,030.—*Design for Can-Covers*.—I claim the ornamental design for a preserving jar cover, herein described and shown.

JOHN F. BODINE.

No. 1,031.—*Design for Cooks' Stoves*.—I claim the ornamental design of the plates or castings A B C D E F G of a cooking stove, as herein described and represented in the annexed photographs.

ROBERT HAM.

No. 1,032.—*Design for Towel Stands*.—I claim the design or configuration of the towel stand, as above described, and as exhibited in the accompanying drawings.

NATH'L WATERMAN.

No. 1,033.—*Design for Printers' Types*.—I claim the design of the said type as described and shown.

GEORGE BRUCE.

No. 1,034.—*Design for Door-Lock Plates*.—I claim the design above described and represented in the accompanying drawing, cast in relief on the outside of a door-lock plate.

C. B. ERWIN.

No. 1,035.—*Design for Door-Lock Plates*.—I claim the design above described and represented in the accompanying drawing, cast in relief on the outside of a door plate.

C. B. ERWIN.

No. 1,036.—*Design for Door-Lock Plates*.—I claim the design above described and represented in the accompanying drawing, cast in relief on the outer face of a door-lock plate.

H. E. RUSSELL.

No. 1,037.—*Design for Box Stoves*.—We claim the ornamental design of the plates of a box or six-plated stove, as herein described and represented in the annexed photographic drawing.

N. S. VEDDER.
EZRA RIPLEY.

No. 1,038.—*Design for a Cooking Stove*.—I claim the ornamental design, herein described and represented in the annexed photographic drawing, for the plates A B C and D of a cooking stove.

N. S. VEDDER.

No. 1,039.—*Design for Parlor Stoves*.—I claim the ornamental design, herein described and represented in the annexed photographic drawings, for parlor stove plates.

N. S. VEDDER.

No. 1,040.—*Design for Parlor Stoves*.—I claim the ornamental design, herein described and represented in the annexed photographic drawings, for the top and bottom plates of an oval parlor stove.

N. S. VEDDER.

No. 1,041.—*Design for Stoves*.—We claim the combination and arrangement of ornamental figures and forms, represented in and by the accompanying drawing, and forming together an ornamental design for a stove.

JACOB STEFFE.
JAMES HORTON.
JOHN CURRIE.

No. 1,042.—*Design for Stoves*.—We claim the combination and arrangement of ornamental figures and forms, represented in and by the accompanying drawing, and forming together an ornamental design for a stove.

JACOB STEFFE.
JAMES HORTON.
JOHN CURRIE.

No. 1,043.—*Design for Roll-Pans*.—I claim the design substantially as described and exhibited in the drawings.

NATHANIEL WATERMAN.

No. 1,044.—*Design for Cooks' Stoves*.—I claim the general configuration of the parts shown on the front, sides, and back of the stove, to form a new and ornamental design for a cook stove.

W. P. ABENDROTH.

No. 1,045.—*Design for Screens*.—I claim the ornamental configuration of the plates designed for a screen, as above set forth and represented.

JAMES L. JACKSON.

No. 1,046.—*Design for Bread Pans*.—I claim the ornamental design for biscuit pans as herein described and as represented in the accompanying drawings.

NATHANIEL WATERMAN.

No. 1,047.—*Design for a Cook's Oven Stove*.—I claim the configuration and ornaments above described and shown in the drawings as a design for an "elevated oven" cooking stove.

WILLIAM W. STEVENS.

No. 1,048.—*Design for Stoves*.—I claim the ornamental design for a top, bottom, cover, door, and legs for a sheet-iron air-tight stove substantially as exhibited in the accompanying drawings and as described above.

NATHANIEL P. RICHARDSON.

No. 1,049.—*Design for Nursery Bottles*.—I claim the S-shaped scroll formed of the label portion *a*, leaf branches *b*, and berries *c*, arranged or disposed as herein shown and described to form a new and ornamental design for a nursing bottles.

FRANCIS KERN.

No. 1,050.—*Design for Cast-Iron Bedsteads*.—I claim the arrangement and combination of figures, devices, and ornamentation, represented in the accompanying drawing, the whole forming an ornamental design for a cast-iron bedstead leg.

PHILIP TABB.

No. 1,051.—Suspended.

No. 1,052.—*Design for Stoves*.—We claim the design and configuration of the mouldings and ornaments as herein described, forming an ornamental design for stoves.

GARRETTSON SMITH.
HENRY BROWN.

No. 1,053.—*Design for Cast-Iron Fences*.—I claim the rope ornaments *D D*, leaves *L L*, and scrolls and leaves *C*, substantially as represented in the accompanying drawings.

MARTIN BRIGGS.

No. 1,054.—*Design for Trade Marks*.—We claim the design of a cotton bale as a trade mark, as herein described.

RICHARD P. BRUFF.
CHARLES BRUFF.
G. ARTHUR SEAVER.

No. 1,055.—*Design for Cooks' Stoves*.—I claim the ornamental design of each door or panel *A B C D* and foot *E* of the cooking stove, as herein described and represented in the annexed photographic drawing.

N. S. VEDDER.

No. 1,056.—*Design for Cast-Iron Fire Shovels*.—I claim the shape, configuration, or pattern, for a cast fire or ash shovel, herein described and set forth.

WILLIAM BENNET.

No. 1,057.—*Design for Locketts*.—I claim “embellishing the sides of the lockets or charms for containing hair, likenesses, or other souvenirs or objects, with clusters of flowers and other configurations, as described and represented.”

ALBERT C. RANDALL.

No. 1,058.—*Design for Cast-Metal Tablets*.—I claim the ornamental design for a cast tablet of iron or other metal, as set forth and represented in the accompanying photographic views.

EZRA CLARK.

No. 1,059.—*Design for Stoves*.—I claim the configuration and ornament of plates fig. 1, fig. 2, and fig. 3, as set forth and shown in the annexed drawings.

E. J. CRIDGE.

No. 1,060.—*Design for Statuettes of Henry Clay*.—I claim the new design, herein described and represented in the drawings, for a statuette of Henry Clay.

T. BALL.

No. 1,061.—*Design for Stoves*.—I claim the combination and arrangement of all the various figures or members making up the whole design, as herein set forth.

LYMAN L. THOMAS.

No. 1,062.—*Design for Hat and Cane Stands*.—I claim the above described design or configuration, as represented in the accompanying drawing.

EDWARD REYNOLDS.

No. 1,063.—*Design for Cooks' Stoves*.—I claim the new design for a cooking stove, consisting of the ornamental configurations herein above described and represented in the drawings.

A. C. BARSTOW.

No. 1,064.—*Design for Script Types*.—I claim the design of the types as described and shown in the “characters” of the accompanying printed sheet.

JAMES CONNER.

No. 1,065.—*Design for Stove Plates*.—I claim the arrangement and combination of the several figures and mouldings, the whole forming together a new configuration for stove castings, as herein described.

SAMUEL D. VOSE.

No. 1,066.—*Design for Stove Plates*.—I claim the arrangement and combination of the several figures and mouldings, the whole forming together a new configuration for stove castings, as herein described.

SAMUEL D. VOSE.

No. 1,067.—*Design for Stove Plates*.—I claim the arrangement and combination of the several figures and mouldings, the whole forming together a new configuration for stove castings, as herein described.

SAMUEL D. VOSE.

No. 1,068.—*Design for Stove Plates*.—I claim the arrangement and combination of the several figures and mouldings, the whole forming together a new configuration for stove castings, as herein described.

SAMUEL D. VOSE.

No. 1,069.—*Design for Iron Fences*.—I claim as a design for railings, the composition or combination of the several cast ornaments and curved rods and standards united, and producing an ornamental panel of the configuration substantially as specified.

EDWIN GOMEZ.

No. 1,070.—*Design for Metallic Coffins*.—I claim the form and configuration of metallic coffins as represented and described.

WILLIAM H. FORBES.

No. 1,071.—*Design for Dining Room Stoves*.—I claim the ornamental bass-relief figures on the several doors and panels, when combined and arranged substantially as represented in the accompanying drawings.

GEORGE D. SPRECHER.

No. 1,072.—*Design for Parlor Stoves*.—We claim the combination of ornamental figures and forms, represented in and by the accompanying drawing, forming an ornamental design for the plates of parlor stoves.

GARRETTSON SMITH.

HENRY BROWN.

No. 1,073.—*Design for Cooks' Ranges*.—We claim the ornaments in bass-relief, and arrangement of mouldings configurated, as shown and described, and constituting an ornamental stove design, designated as the "National Range."

GARRETTSON SMITH.

HENRY BROWN.

No. 1,074.—*Design for Book-Marks*.—I claim the new design for a book-mark, consisting of the hand placed within the heart, as described and represented in the drawings.

WILLIAM B. FRENCH.

EXTENSION OF THE GOODYEAR PATENT.

In the matter of the application of Charles Goodyear for the extension of a patent granted to him for "improvement in India-rubber fabrics" on the 15th day of June, 1844, and which was reissued in two separate patents on the 25th day of December, 1849, under the designations of "improvement in processes for the manufacture of India-rubber," and "improvement in felting India-rubber with cotton fibre."

DECISION OF THE COMMISSIONER.

UNITED STATES PATENT OFFICE, June 14, 1858.

It appears that on the 30th January, 1844, the applicant, through his agent, (Newton,) obtained from the English government a patent for this invention or discovery, known in popular parlance as a "process for vulcanizing India-rubber;" and, on the 15th of June thereafter, the patent now sought to be extended was issued from this office. It is assumed and insisted by the contestants that the American patent should have borne even date with the English, and that in law it expired with it on the 30th of January last, and in consequence it is denied that the Commissioner has any authority to entertain a petition for its renewal. What shall be the date and duration of a patent is a question which must be decided by this office on each original application; and, in the case under consideration, it was determined that it should bear date the 15th of June, 1844, and should secure a monopoly of the invention for fourteen years thereafter. If this was irregular, in view of the English patent, it did not render that issued by this office void, as was held by the Supreme Court in 15 Howard, 112; *O'Reilly et al. vs. Morse et al.* Being at most voidable, it would seem that it should be treated as valid until vacated by the judgment of some judicial tribunal. At all events, whatever may be the power of the courts over the instrument, it is not believed to be competent for the Commissioner in a summary and in some respects a collateral proceeding like this to revise and reverse a former decision of this office under which so many rights have been vested. Were his power, however, plenary in the matter, I should not hesitate to hold that the provisions of law cited do not sustain this objection, which has been taken in the nature of a plea to the jurisdiction. The 8th section of the act of 1836 and the 6th section of that of 1839, being in *pari materia*, must be construed together; and as the latter is not in its terms a repeal of the former, it can, according to a well-settled principle of construction, be allowed to have that effect only so far as the provisions of the two are clearly incompatible. The statute of 1836 declares that nothing therein contained "shall be construed to deprive an original and true inventor of the right to a patent for his invention by reason of his having previously taken out letters patent therefor in a foreign country, and the same having been published at any time within six months next preceding the filing of his specification and drawings. And whenever the applicant shall request it, the patent shall take

date from the filing of the specification and drawings ; not, however, exceeding six months prior to the actual issuing of the patent." It is sufficiently clear that this clause applies only to those cases in which the foreign patent has been issued *before*, but within six months of the filing of the specification and drawings. A reference to the record, however, shows that the specification and drawings in this case were filed on the 15th of January, 1844, so that the foreign patent, instead of having been taken out *before*, as contemplated by the act, was, in fact, taken out fifteen days *after* the filing of the specification and drawings in this office. This would seem to relieve the case entirely from the operation of the provision. But should it be treated as subject to it, as the American patent was issued four and a half months after the publication of the English, the most that could be claimed would be that the applicant might, "*on request*," have had his patent ante-dated so as to have reached back to the filing of his specification and drawings, *but he was not bound to do so*. It is manifestly a privilege bestowed, and not a duty imposed upon him. He did not choose to avail himself of that privilege, and hence the patent went out properly bearing its actual date. The act of 1839 asserts that "no person shall be debarred from receiving a patent for any invention or discovery, as provided in the act approved on the 4th of July, 1836, to which this is additional, by reason of the same having been patented in a foreign country *more than six months prior to his application*: *Provided*, That the same shall not have been introduced into public and common use in the United States prior to the application for such patent: *And provided also*, That in all cases *every such patent* shall be limited to the term of fourteen years from the date or publication of such letters patent." It will be perceived that this provision is confined expressly to an invention or discovery for which letters patent shall have been taken out in a foreign country *more than six months prior to the filing of the application here*, and declares such invention or discovery patentable under limitations. The act of 1836 referred to this class of cases, and, in effect, treated them as unpatentable. *To this extent* it is repealed by the act of 1839, *because irreconcilable with it*. But the act of 1836 refers to another and very distinct class of cases, in which the foreign letters patent *were not published more than six months before the date of the application here*, and declares them patentable. To this latter class no allusion is made by the act of 1839 ; and as this act is in this respect in no degree inconsistent with that of 1836, and as it professes to be not abrogatory of, but "additional" to it, it must, upon the soundest principles of interpretation, be held that this feature of the act of 1836 remains in full force. The closing language of the clause quoted is not regarded as in conflict with the construction insisted on. The words are, "in all cases *every such patent* shall be limited," &c. What is intended by "*every such patent*?" Undoubtedly the kind of patent spoken of in the preceding part of the section, and no other, to wit: a patent based on an invention for which letters patent had been issued in a foreign country *more than six months before the filing of the application here*. It may be very well supposed that Congress might consider six months as too small a fraction of time to require its introduction

as a part of the lifetime of the patent, and would, therefore, leave it to be embraced or not, at the option of the applicant, while to guard against abuse, if the period were longer, the inclusion of the whole might be consistently and properly exacted.

The novelty and original patentability of this invention, as well as its great public utility, are fully established by the report of the examiner and by the depositions on file. But two leading questions, therefore, remain to be disposed of.

First. Has the applicant used due diligence in developing his invention and in introducing it into public use?

Second. Has he, from the use and sale of the invention, received a reasonable remuneration for the time, ingenuity, and expense bestowed upon the same, and the introduction thereof into use?

Upon the first point, the testimony alike of the applicant and of the contestants is concurrent and conclusive. From the first moment that the conception entered his mind until his complete success—embracing a period of from sixteen to eighteen years—he applied himself unceasingly and enthusiastically to its perfection, and to its introduction into use, in every form that his fruitful genius could devise. So intensely were his faculties concentrated upon it that he seems to have been incapable of thought or of action upon any other subject. He had no other occupation, was inspired by no other hope, cherished no other ambition. He carried continually about his person a piece of India-rubber, and into the ears of all who would listen he poured incessantly the story of his experiments and the glowing language of his prophecies. He was, according to the witnesses, completely absorbed by it both by day and night, pursuing it with untiring energy and with almost superhuman perseverance. Not only were the powers of his mind and body thus ardently devoted to the invention and its introduction into use, but every dollar he possessed or could command through the resources of his credit or the influence of friendship was uncalculatingly cast into that seething caldron of experiment which was allowed to know no repose. The very bed on which his wife slept and the linen that covered his table were seized and sold to pay his board, and we see him with his stricken household following in the funeral of his child on foot, because he had no means with which to hire a carriage. His family had to endure privations almost surpassing belief, being frequently without an article of food in their house or fuel in the coldest weather, and indeed it is said that they could not have lived through the winter of 1839 but for the kind offices of a few charitable friends. They are represented as gathering sticks in the woods and on the edges of the highways with which to cook their meals, and digging the potatoes of their little garden before they were half grown, while one of his hungry children, in a spirit worthy of his father, is heard expressing his thanks that this much had been spared to them. We often find him incarcerated in the debtor's prison, but even amid its gloom his visions of the future never grew dim, his faith in his ultimate triumph never faltered. Undismayed by discomfitures and sorrows which might well have broken the stoutest spirit, his language everywhere, and under all circumstances, was that of encouragement and of a profound conviction of final success. Not only in the United States did he

thus exert himself to establish and apply to every possible use his invention, but in England, France, and other countries of Europe, he zealously pursued the same career. In 1855 he appeared at the World's Fair in Paris, and the golden medal and the Grand Cross of the Legion of Honor were awarded to him as the representative of his country's inventive genius. Fortune, however, while thus caressing him with one hand, was at the same moment smiting him with the other; for we learn from the testimony that these brilliant memorials passed from the Emperor and reached their honored recipient, then the occupant of a debtor's prison, among strangers and in a foreign land, thus adding yet another to that long sad catalogue of public benefactors who have stood neglected and impoverished in the midst of the waving harvest of blessings they had bestowed upon their race. Throughout all these scenes of trial, so vividly depicted by the evidence, he derived no support from the sympathies of the public. While the community at large seem to have looked on him as one chasing a phantom, there were times when even his best friends turned away from him as an idle visionary, and he was fated to encounter on every side sneers and ridicule, to which each baffled experiment and the pecuniary loss it inflicted added a yet keener edge. The mercenary naturally enough pronounced his expenditures, so freely made, culpably wasteful; the selfish and the narrow-minded greeted the expression of his enlarged and far-reaching views as the ravings of an enthusiast; while it is fair to infer from the depositions that not a few of the timid and plodding, who cling, tremblingly apprehensive of change, to the beaten paths of human thought and action, regarded him as wandering on the very brink of insanity, if not already pursuing its wild and flickering lights. Such in all times has been the fate of the greatest spirits that have appeared on the arena of human discovery, and such will probably continue to be the doom of all whose stalwart strides carry them in advance of the race to which they belong. With such a record of toil, of privation, of courage, and of perseverance in the midst of discouragements the most depressing, it is safe to affirm that not only has the applicant used that due diligence enjoined by law, but that his diligence has been, in degree and in merit, perhaps without parallel in the annals of invention.

Before entering upon an examination of the second leading question, several preliminary issues raised by the contestants must be met and decided.

The amount of expenditures and receipts originally presented, it is admitted, was too general in its terms to be accepted as a compliance with the requirements of the statute. Hence, subsequently, in April an additional or amended account was offered, which, in consequence of the absence of the applicant in England, was not sworn to by him until the 23d of that month, and was not filed in this office, *as thus verified*, until the 8th May. This amended statement was intended not as a substitute for the original, but as a correction of certain inaccuracies which had crept into it, and as furnishing the details which law and usage demand. It is objected that it should not be considered, because when first lodged here it was without the oath of the applicant, and because when that oath was appended on the 8th May

it was too late for the contestants to take their rebutting testimony. It will be observed that there is nothing in the circumstances attending this delay calculated to excite a suspicion of a desire on the part of the applicant to suppress the truth by stifling inquiry; and it must also be borne in mind that, although there is a rule of this office on the subject, the statute is silent as to the *time* when the account shall be filed. It is true that it must be "under oath," and the oath of the patentee was no doubt contemplated by the framers of the law, but it is also true that cases have arisen in which that oath was necessarily and properly dispensed with, as when the patentee had died or become insane. Other cases may well be imagined in which the oath of parties entirely disinterested, and having a thorough knowledge of the subject-matter, would be more satisfactory to the judicial mind than that of the patentee. The amended account was as early as the 8th of April verified by the oaths of a number of disinterested witnesses professing an acquaintance with the transactions to which it relates, and this is claimed to be a substantial compliance with the statute. Assuming that the contestants were not bound to take rebutting testimony until after the account had been sworn to by the applicant, yet they had notice of the existence and character of that account through a copy served on them as early as the 20th April, and this was sufficient to put them upon inquiry. Being thus distinctly apprised of what it was proposed to prove, they could have occupied themselves in discovering such evidence as might exist in their favor, and in taking at least the preliminary steps to the examination of the witnesses. The time for taking the proof having been extended, there were at least sixteen days—between the 8th and 24th of May—allowed for assailing the account by counteracting testimony, and we are warranted from the record in presuming that this time was with the greatest zeal and activity devoted to the taking of depositions, and that all the witnesses who could be found, having knowledge of facts deemed important for the contestants, and who were willing to depose, were examined. It is true that Mr. Cozzens in his deposition expresses the opinion "that there has not been anything like enough time since the filing of the applicant's petition and statement to properly *prepare* an opposition thereto." Waiving the obvious criticism upon this language, it is a complete answer to say that the name of no witness is given whom the contestants were prevented from examining for want of time, nor is any fact material to them alleged to exist and be susceptible of proof, but which they were denied an opportunity of establishing. In the absence of any such specific averment, it is impossible to decide, in the language of a rule of this office, that "a substantial injury has been wrought to the party raising the objection," and hence, according to that rule, such objection cannot prevail on the final hearing. When a party frankly avows that he has committed an error in a judicial oath, and asks the privilege of correcting it under the same sanctions, a tribunal whose mission is the ascertainment of truth should rather encourage him to make such correction than rebuke him for an offer to do so.

Another question to be answered before proceeding to the main inquiry is, whether in determining the adequacy of the remuneration

received by the applicant the receipts of his assignees and licensees—admitted to amount to many millions—should be charged to the patent. The first impression of my mind was favorable to the position taken by the contestants, but a more critical examination of the statute has led me to an opposite conclusion. At the time of the passage of the act of 1836 it was the universal custom of inventors to sell and assign the rights secured to them by their patents, and this course on their part has been constantly contemplated and sanctioned by law. Hence the statute declares that if the “patentee” shall fail, from “the use and sale of his invention,” to realize a reasonable remuneration, he shall be entitled to an extension. The law, in its enactments, is generally found to be a faithful reflection of the actual life of the world. It was well known that inventors, as a class, were particularly liable to be overreached in their contracts, and to be driven to dispose of their inventions at ruinous rates, under the pressure of poverty, and often before their utility had been fully demonstrated. Hence the generous guarantee was given them that if from such “sales,” no matter how made, and from such “use” as they might choose to make of their inventions, they were unable to secure a reasonable compensation, their monopoly should be further extended. There is not the remotest allusion to their assignees and licensees, and, as the reason of the enactment does not reach them, it would be an unsound principle of construction which should embrace them by implication. A further reason why they should not be thus embraced is found in the fact that a very large part of the profits of these assignees, who are generally manufacturers, is the product of their own capital and enterprise in association with the invention, and could not, therefore, be properly charged to its account in this proceeding. Assignees and licensees constitute a very numerous class, scattered throughout the length and breadth of the land, and their profits from inventions must be regarded as the profits of that great public of which they are so important a part. The very large sums which they are alleged by all the witnesses who have spoken on the subject to have made from this invention is but another of the ever-multiplying proofs of its extraordinary value to the world, for it is safe to conclude that the consumers of the fabrics have been equally benefitted with the manufacturers who produced them. If, on an application for an extension, the patentee were chargeable with the receipts of his assignees and licensees, it would then follow that he would be bound to exhibit them in his accounts—a manifest impossibility, it is scarcely necessary to say, in the great majority of cases.

The first step in determining the sufficiency of the remuneration is to ascertain, as far as practicable, the amount of the applicant's receipts and expenditures in connexion with the invention. The apparently discrepant and informal character of the accounts filed has produced much severity of criticism and some denunciation on the part of counsel. It is admitted that they have not the precision and symmetry which belong to the products of the counting-room, and which might have been imparted to them by the applicant had he been a merchant's clerk, instead of the brilliant and impulsive genius that he is. In explanation of the generality and uncertainty for

which, it is insisted, they are marked, it is in proof that the applicant never kept any books or memoranda from which more reliable statements could be prepared. In this respect his course of life has been in entire harmony with that of the class to which he belongs. Inventors and other men of high creative genius have ever been distinguished for a total want of what are called "business habits." Completely engrossed by some favorite theory, and living in the dazzling dreams of their own imagination, they scorn the counsels and restraints of worldly thrift, and fling from them the petty cares of the mere man of commerce as the lion shakes a stinging insect from his mane. The law, in its wisdom, takes cognizance of human character, and deals with men, and with classes of men, as it finds them. It seems, in this instance, to have assumed, and justly, that if we would have the magnificent creations of genius we must take them with all those infirmities which seem as inseparable from them as spots are from the sun. Hence the statute does not require that the accounts of inventors shall have that formality and that severe exactitude which might well have been claimed of a merchant with his ledger open before him. All that is insisted on is, that the statement furnished shall be "*sufficiently* in detail to exhibit a true and faithful account of *loss* and *profit* in any manner accruing to him from and by reason of said invention." It is manifest that it is to the results, which indicate "loss and profit," rather than the minute elements of the transactions which form the subject of the account, that the law looks. The applicant's statement, as amended, appears to have been compiled with the most laborious care, and from every source of information accessible to him or his attorneys. It is regarded as fully conforming to the letter and spirit of the statute. The principal discrepancy between the original and amended statement is satisfactorily explained. The applicant held at the same moment three patents for processes connected with the manufacture of India-rubber, viz: that of Chaffee, that of Hayward, and that for his own vulcanizing process. In all his contracts he transferred these three patents together, making no designation, in the body of the assignments, of the estimate placed upon either of them separately. In his original statement he inadvertently charges to his own patent the whole of the receipts from this source; in his amendment he sets the Chaffee and Hayward patents down as properly chargeable with one-fourth of the proceeds of such sales, and makes, accordingly, a corresponding deduction from his exhibit of receipts. The language of his first statement, properly interpreted in the light of the assignments themselves, justified this step. Whatever those patents may have cost him, they were his property, and it was due to truth and to the claim now under consideration that their actual value should have been ascertained. The witnesses who speak of them prove conclusively that the applicant has rather under than over-rated them, which relieves him from all imputation in the matter.

What, then, has been the amount of the applicant's remuneration? His account, as amended, exhibits \$162,894 09 of receipts, and \$129,535 46 of expenditures, thus showing a profit of \$33,358 63. Numerous intelligent and unimpeached witnesses, having intimate

relations with the applicant and acquainted with his business affairs, have deposed in reference to this account, and their testimony, without an exception, powerfully supports its truth. Considering the remoteness and complicated character of the transactions, the statements in this paper are illustrated and sustained with singular force. The rebutting evidence assails directly no item either of the receipts or expenditures, but consists of the opinions and conjectures of a large number of witnesses who clearly had no means of knowing either the truth or falsehood of the matters set forth in the account. They profess to believe that the applicant could not have expended such large sums in his experiments because he was poor; and this is the sole basis of almost every opinion expressed on the subject. Had these witnesses known, what this record makes so apparent, the overwhelming debts which have hung over the applicant throughout his long and self-sacrificing career, and many of which still bear him down, his enormous outlays would not have been to them so impenetrable a mystery. The very elaborate report of the examiner, after a severe scrutiny of the expenditures and receipts as exhibited, restates the account, and in doing so increases the applicant's profits to \$114,128 09. In arriving, however, at this conclusion, he has excluded two items of expenditure which I am well satisfied should have been retained. The first is for \$13,310, and is not allowed because for disbursements occurring *before* the invention or discovery was made. The act of Congress directs an inquiry into the "loss and profit in *any manner* accruing to him (the inventor) from and by reason of said invention." Whether we consult the letter or reason of the law, I entertain no doubt but that expenditures made in the progress of experiments *preceding* the invention but looking to it, are as clearly chargeable to the patent as those made afterward, either in perfecting it or introducing it into use. The other item is for \$46,084 46, as set forth in Exhibit No. 2, and I am at a loss to perceive any sufficient reason for its rejection. The applicant alleges expressly in his sworn statement that the whole of this sum "was expended by him in perfecting his said invention and bringing the same into use." De Forest, who advanced the money, and who holds the drafts specified in the exhibit, when interrogated on the point, says explicitly that it was applied by the applicant to "experiments in developing his improvements, and new applications and branches of the India-rubber manufacture;" and this statement is uncontradicted. The fact averred and not denied, that De Forest has not been reimbursed these advances which constitute a subsisting debt on the part of the applicant, furnishes no argument against their being charged to the patent. All moneys expended upon the invention and its introduction into use are properly so chargeable, no matter whence or how obtained. Restoring, then, these items, and adopting the other corrections of the examiner, there will still remain to the credit of the invention a clear profit of \$54,733 63. The applicant, in his amended statement, acting under the promptings of the same high sense of honor which led him to satisfy an indebtedness of \$35,000, from which he had been discharged by a certificate of bankruptcy, shrinks from debiting the patent with any expenditures the particulars of which he cannot

recall with some degree of certainty, but, while doing so, unhesitatingly expresses the belief that they were quite as large as the sums set forth in gross in the first account. It is probable—indeed, in view of the whole testimony, it is my firm conviction—that if it were possible to extract from the tangled mazes of the multifarious and now half-forgotten transactions connected with the invention all the moneys expended therein, it would be found that, instead of there being a balance to his credit, the balance would be on the other side. I am justified in arriving at this conclusion from the fact that although the applicant has had no other occupation or business, yet, instead of having now in hand this sum of \$54,733 63, he is admitted to be pennyless and overwhelmed with debt—and this, too, notwithstanding his life is shown to have been temperate, frugal, and in all respects self-denying. Being reimbursed his actual “expenses,” is this sum of \$54,733 63 a reasonable remuneration to the applicant for the “INGENUITY and TIME” bestowed on the invention, and the introduction thereof into use?

An earnest endeavor has been made to depreciate the ingenuity displayed in the invention by representing the discovery to have been the result rather of “accident” than of scientific investigation. As early as 1834-’35, Mr. Goodyear seems to have formed a most exalted estimate of the capabilities, as a material for manufacture, of the gum known as caoutchouc, or India-rubber. This gum had been previously extensively employed in the fabrication of a variety of articles, but, owing to their indifferent quality, all concerned in these enterprises, as well as in those which followed for a series of years afterward, were involved in bankruptcy and ruin. The fabrics thus made could not keep the market, because they were found to grow rigid under the influence of cold, and to soften and become sticky under that of heat, while they rapidly decomposed when brought into contact with perspiration and the animal oils. The applicant was thoroughly convinced that these qualities which had proved so disastrous to the trade could be removed, and he set himself resolutely to work to ascertain the process of accomplishing this result. Sulphur had already been advantageously combined with India-rubber by Hayward, so that the discovery had been approached to its very verge. The step, however, which remained to be taken, short as it was, was indispensable, and without it all those which had preceded it would have been unavailing. Science could afford but little assistance in the inquiry, for, as the event proved, the most potent element in the process was too subtle to be disclosed by the severest chemical analysis. The applicant had, therefore, to pursue the investigation gropingly; but he persisted in it with an ardor and a courage which nothing could abate or daunt. His aim was definite, his conviction as to its attainability complete. As one who searches for a hidden treasure in a field where he knows it is to be found, so pursued he his explorations in quest of this secret. He sought it on the right hand and on the left, by day and by night, in the midst of ceaseless toil and lavish expenditure, and by the light of every form of experiment which his most fertile genius and daring spirit could suggest. He became completely master of everything known in regard to the prop-

erties of the material which it was his ambition to improve, and so thoroughly was he imbued with the soul of his inquiry, and so intensely quickened was his vigilance, that no phenomenon, however minute, could meet his eye, no sound, however faint, could fall upon his ear without his at once detecting and appreciating its bearing upon the great problem whose solution he was seeking. From four to five years were passed in these unremitted labors, when an incident occurred which at once revealed the long-sought truth. And it is a singular coincidence, that the spark of light yielded by this incident was elicited by a collision, so to speak, the result of that intense zeal which, so far as health and fortune were concerned, had been the consuming fire of his life. In one of those animated conversations so habitual to him, in reference to his experiments, a piece of India-rubber combined with sulphur, which he held in his hand as the text of all his discourses, was by a violent gesture thrown into a burning stove near which he was standing. When taken out, after having been subjected to a high degree of heat, he saw—what, it may be safely affirmed, would have escaped the notice of all others—that a complete transformation had taken place, and that an entirely new product—since so felicitously termed “elastic metal”—was the consequence. When subjected to fuller tests, the thrilling conviction burst upon him that success had at length crowned his efforts, and that the mystery he had so long wooed now stood unveiled before him. His history in this respect is altogether parallel with that of the greatest inventors and discoverers who have preceded him. The lamp had swung for centuries in the Cathedral of Pisa, but of the thronging multitudes who worshipped there, none had heeded the lessons which it taught. It was reserved for the profound and observant intellect of young Galileo to extract from its oscillations the true laws of the pendulum, which led to the creation of an infallible measure of time. The theory of universal gravitation loses nothing of its grandeur or value because suggested by the falling of an apple from the tree. In all lands, by teeming millions, this phenomenon had been observed, but to none had it imparted instruction—to none had it spoken of that wonderful secret which lurked beneath its simple features. At length its “still small voice” fell upon the delicate and appreciative ear of one whom it startled into inquiry. The light thus afforded, to which all had been blind, was, indeed, dim and twinkling; but following its guidance as one who traces back the dawn, the great Newton soon plunged into the full-orbed splendors of a discovery confessedly the most brilliant which has gilded and ennobled the annals of science. On all the hearth-stones of the civilized world, for thousands of years, the kettle had boiled and lifted its lid by the expansive power of its steam; yet for none had this seemingly trite and ever-recurring incident been significant—to none had it announced that measureless power of which it was the humble but distinct exponent. At length the movement caught the eye of a lonely student of nature, then a prisoner in the Tower of London, and in the soil of his prolific mind it proved the rapidly-expanding germ of that steam-engine whose triumphs have changed the social, political, and commercial aspects of the globe. So India-rubber, in combination with sulphur, may by

accident have been exposed to a high degree of heat often before, without attracting the attention of any; and it is safe to allege that it might have been thus exposed a thousand times afterwards without the world having been the wiser or wealthier for it. The thorough self-culture and training of the applicant, and his unwearied researches, prepared him at once to seize upon, to comprehend, and embody in a practical form, the truth he sought the moment it presented itself, no matter how dimly, to him. This was his merit—the same in kind with that of the most illustrious inventors who have appeared in the world, and by that of but few of them surpassed in degree. It is a figure of speech, but an exalted mode of expression, which assigns to man any part in the work of *creation*. In his very best estate he is but a ministering priest at her altar, and when he has reached the highest walk in the drama of intellectual power to which his feeble steps can ascend, he is still but an humble translator of the languages of nature. It is a fact which singularly increases the credit due to this inventor, that the very path in which he finally achieved success was the one which the experience of the past had taught him to shun. A low degree of heat had been applied to a combination of India-rubber and sulphur, and it had melted under it, so that heat—the increased intensity of which consummated the discovery—was the very element which he had felt himself admonished to avoid. The discovery being made, the applicant soon thereafter added white lead to the combination, which rendered it complete, and assuming that his mission was but begun, he bravely bent himself to the task of surmounting the obstacles which still frowned upon him on every side. These obstacles, so graphically sketched in the testimony, seem to have been almost unprecedented. Capitalists shrunk away from the discovery, so confidently announced, as a chimera, and manufacturers who had suffered so deeply by the India-rubber business denied it their confidence. Its practicability had to be demonstrated by a long series of illustrations, which the total want of experience rendered protracted, and often ruinously expensive. Every inch occupied in the enlarging field of its usefulness had to be conquered by many sacrifices, while of the Protean-formed applications to which it was destined to attain, there was not one that did not involve an outlay of treasure, of toil, and high artistic skill. All these, from the beginning to the present hour, have been bestowed—unceasingly bestowed—upon it, and as the fruits of all these have been and are still being reaped by the public, the applicant is entitled to remuneration for them.

Has the applicant been remunerated for the *TIME* which he has devoted to this invention, and to its introduction into use?

It is extremely difficult to estimate in the coin of dollars and cents the worth of eighteen years of the prime of human life, especially so when that life is one of lofty genius, of indomitable enterprise, and of stainless virtues. It is, however, about that period of precisely such a life that has been consecrated to the pursuit and development of this discovery; nor would a shorter period of time have sufficed for the arduous and perplexing task. This declaration may be made with the more emphasis because in all the volumes of testimony filed

there is not one word found tending to its contradiction. Throughout those long and toilsome years it is apparent that there has been no compromise with the suggestions of avarice, or with the claims to self-indulgence and ease. It has been already fully shown that the applicant's fortune, his health, the comforts of his family, the freshness of his early and the patient energies of his latter manhood, have all been unhesitatingly melted down in the crucible of this inquiry, and he is now seen tottering toward that grave which must soon open in his path, with nothing left of the heroic and athletic man but what remains of the maimed and scarred soldier on the battle field—a wreck which every great and generous people have taken fondly to their bosom. The time of the indolent, the selfish, the dissolute, and the dull, is little worth to a world which they rather cumber than bless by their presence; but the time of the gifted, the brave, the philanthropic, and unconquerable sons of genius has for mankind a value which we should but feebly express in the arithmetic of dollars. But while we may have no means by which to measure with unerring accuracy the intrinsic worth of the ingenuity and time which have been expended, and cannot by any analysis weigh or compute their ingredients, there remains to us one standard by which a proximate estimate at least may be reached—that is, *the results which have been produced*. What that time and ingenuity have yielded to the public is the true test of their value, alike to that public and to the inventor; for what the former have received the latter must, upon every principle of sound logic, be held to have parted with. What, then, have been the results of the discovery and introduction into use of the vulcanizing process? The testimony is very full upon this point. We learn that through this instrumentality a large foreign commerce has been created in the raw material, and an inland trade in the India-rubber fabrics, amounting to between four and five millions of dollars annually; that extensive India-rubber manufactories have grown up, giving profitable investment to some seven millions of dollars of capital, and active employment to some ten thousand operatives; and that a large portion of these fabrics is intimately connected with human comfort and the preservation of human life. Not to enumerate more of the articles produced by this process, it would be hazarding nothing to say that the shoes and wearing apparel perfected by it, and now cheaply and abundantly made, and almost universally in use, have saved thousands from a premature death, and may save millions in the ages which are to come. In the presence of these vast and still expanding achievements of this invention, the criticisms which have been made upon the applicant's accounts, as though they were some petty grocer's bill, shrink into insignificance, and, indeed, can scarcely be listened to without a blush. We have, however, a yet more definite basis on which to rest our judgment—the testimony of Hayward and Haskins. Both have long been India-rubber manufacturers under the vulcanizing process, and the former made the valuable discovery of combining sulphur with the gum, for which a patent was granted to him. Their depositions are marked by frankness, and leave no doubt of their perfect acquaintance with this great interest in all its ramifications and aspects. Hayward says that the vulcanizing process for the next seven years would be worth to the public

one million of dollars. If so, it should have been worth two millions for the last fourteen years. Haskins does not hesitate to estimate the process at "many millions of dollars." It should be observed that the evidence of the contestants does not reduce these estimates. It is not possible to escape from the conclusion to which statements so emphatic, and coming from sources so fully entitled to credit, lead us. If, then, this process is worth two millions of dollars, the applicant has received but a little more than one-fortieth part of the remuneration which he was entitled to claim.

It has been assumed, as a means of avoiding the force of these estimates, that the applicant is entitled to receive from the public, not what the invention is now worth, developed and established as it is, but what it was worth when the patent issued. This view has been urged with much persistence and plausibility, but it has not impressed me as liberal or sound. When the invention came, timid, and struggling into existence, meeting in every quarter with scoffs and distrust, had it been offered for sale in the market, it would probably have commanded a few thousand dollars—possibly less. But to say that its value is to be measured by what it was then considered to be worth, would be to determine that the character of the tree is to be judged rather by the green than by the ripe fruit found upon its branches. The present expanded and prosperous condition of the invention is mainly owing to the genius and unceasing struggles of the applicant, and he may justly reap what he has sown and so diligently cultivated. In the adjustment of machinery to accomplish the ends so distinctly pointed out by the inventor, and in the manipulations of the gum and treatment of the fabrics in the various stages of their manufacture, it is admitted that many improvements have been made by skilful mechanics and operatives, and these have their utility and importance; but to allow such labors to rival or depreciate the claims of the applicant, would be to rank the simple ploughman of the fields with that sublime and beneficent Providence which creates alike the soil out of which the harvest springs and the sunshine and the shower by which it is nurtured and matured.

Another and most potent reason why this patent should be extended is found in the acknowledged fact that the public have not kept the faith which they plighted with the applicant when he covenanted to surrender to them a product which was, in effect, the concentrated essence of the physical and intellectual energies of his entire life. That public stipulated with him that he should peacefully enjoy for fourteen years the monopoly created by his patent, and had he been permitted to do so, he would, no doubt, long since have realized an ample remuneration; but, so far from this having been the case, no inventor probably has ever been so harassed, so trampled upon, so plundered by that sordid and licentious class of infringers known in the parlance of the world, with no exaggeration of phrase, as "pirates." The spoliations of their incessant guerilla warfare upon his defenceless rights have unquestionably amounted to millions. In the very front rank of this predatory band stands one who sustains in this case the double and most convenient character of contestant and witness; and it is but a subdued expression of my estimate of the deposition he has lodged to say, that this Parthian shaft—the last that he could hurl

at an invention which he has so long and so remorselessly pursued—is a fitting finale to that career which the public justice of the country has so signally rebuked.

Important as are to the parties to this issue the immediate consequences bound up with it, they are insignificant indeed as compared with the value to the public of the principle involved. From the very foundation of this government it has been its settled policy to secure a just reward to all inventors, and it is to the inflexible maintenance of this policy that we are indebted for the unparalleled advancement which, as a people, we have made in the useful arts. All that is glorious in our past or hopeful in our future is indissolubly linked with that cause of human progress of which inventors are the preux chevaliers. It is no poetic translation of the abiding sentiment of the country to say that they are the true jewels of the nation to which they belong, and that a solicitude for the protection of their rights and interests should find a place in every throb of the national heart. Sadly helpless as a class, and offering in the glittering creations of their own genius the strongest temptations to unscrupulous cupidity, they, of all men, have most need of the shelter of the public law, while, in view of their philanthropic labors, they are, of all men, most entitled to claim it. The schemes of the politician and of the statesman may subserve the purposes of the hour, and the teachings of the moralist may remain with the generation to which they are addressed, but all these must pass away, while the fruits of the inventor's genius will endure as imperishable memorials, and surviving the wreck of creeds and systems, alike of politics, religion, and philosophy, will diffuse their blessings to all lands and throughout all ages.

However much the seeming perplexity in the applicant's accounts may expose him to cavil and to that vituperation which is so ready a coinage of professional zeal, and however short some of the points in the case may fall of that complete elucidation which could have been desired, there is one fact established beyond all controversy, and which stands out from this record with painful prominence. At the close of all his toils and sacrifices, and of the humiliations he has been called on to endure, this public-spirited inventor, whose life has been worn away in advancing the best interests of mankind, is found to be still poor, oppressed with debt, and with the winter of age creeping upon his shattered constitution. It is perfectly manifest that this is in no degree the result of vice or of improvidence on his part, but is an inexorable consequence of the impoverishing experiments inseparable from the prosecution of his great enterprise, and of that prolonged and exhausting strife in which unscrupulous men have involved him. He now begs of that country to which the energies of his manhood have been so freely and so faithfully given, that he may be allowed to enjoy for a few years longer that precarious protection which our most feeble and imperfect laws extend to the fruits of intellectual labor; and were the appeal denied, I feel that I should be false to the generous spirit of the patent laws, and forgetful of the exalted ends which it must ever be the crowning glory of those laws to accomplish.

The patent will, therefore, be extended for seven years from the 15th June, 1858.

UNITED STATES PATENT OFFICE,
November 14, 1857.

On appeal to the Commissioner from the decision of the examiner rejecting the application of John McLarty for letters patent for an improved "policeman's club."

The model of the "club" on file is twelve inches long, is round, and about an inch and a quarter in diameter. It has a smooth and polished surface, and resembles the baton generally borne by police and other officers. In practical use it would be lengthened, and would, no doubt, in accordance with the views of the inventor, generally take the form of an ordinary walking cane. Its exterior gives no indication of its real character or capabilities. Its barrel is hollowed, and within it is an ingenious mechanism connected with four longitudinal rows of "spurs or lancets," which lie concealed in the tube. On touching a spring these lancets leap from their hiding places, and through them, by a single wrench of the weapon, a most fearful mutilation is inflicted on the hand of any adversary that may have grasped it. In the technics of street rencontres, it may then be "clubbed," and its lancets made to bury themselves at will in the head and body of the victim. Its operation must prove as instantaneous as it would be irresistible. The professed object of the inventor in fashioning this club was to supply what he states has long been a desideratum, to wit: a weapon not deadly, dispensing with the necessity of a resort to pistols, which policemen might use effectively, but which could not be wrested from them by the rowdies and malefactors with whom their official duties might bring them into conflict. There are on file the depositions of the superintendent and deputy superintendent of the New York city police, fortified by the certificates of fifteen members of the corps, all of whom concur in stating that this club will accomplish the end proposed by the inventor. They also declare, most emphatically, that they regard it as an important and valuable improvement; and a part of them express the opinion that it is not only harmless, but humane. These views have been carefully examined and considered, but they have not seemed the less startling because of the sincerity with which they are unquestionably entertained. They present a strange, if not a melancholy, illustration of the power of professional prejudice over the higher convictions and gentler impulses of our nature. The purpose sought to be obtained by the inventor—the safety of conservators of the public peace, and their triumph in contests with lawless men—is one which must command the approbation of all good citizens; but even this end may become unhallowed from the means employed to attain it. The law, happily, enjoys a wider range of vision than that which these witnesses seem to have allowed themselves; and while it would gladly secure the protection of all, it unhesitatingly recognizes the fact that it has the charge of interests, social and political, compared with which even the safety of policemen is but as the dust of the balance.

Justice to the inventor demands the admission that the mechanism

of this miniature infernal machine displays sufficient novelty to support a patent. The law, however, in its wisdom, has declared that something beyond mere novelty must be established before a patent can issue. The invention must not only be new, but it must be important and useful. It should be distinctly stated, at the threshold of the inquiry, that this instrument, with a view of mitigating that abhorrence with which the overhumane might regard it, disclaims all designs upon human life, and moderates its ambition in the drama of blood to the more humble work of mayhem and laceration. Thus operating, the testimony on file shows that it would be eminently useful to policemen. Conceding this assumption, it is still obvious that this is too limited a measure of utility to satisfy the requirements of the law. An invention to be patentable must not be useful to the few with a chance of being pernicious to the many, but it must clearly appear that, in view of the interests of the whole community, the good resulting from it would decidedly preponderate over the evil. If the officers of public justice, and those law-abiding citizens who love peace and pursue it, could be induced to defile themselves with this instrument, and could its use be restricted to such, it might be comparatively harmless; but when it passes from the workshop of the mechanic who has fashioned it, it is manifestly beyond the control of the government, and will find its way into the service of the brawling profligate as certainly as the stiletto seeks the belt of the bravo. Its manufacture and distribution through society, under the expectation that good would result therefrom, would be an act of folly equalled only by that of strewing our pathways with thorns in the delusive trust that they would bud and blossom into flowers at our approach. It is barbarous in its every characteristic, and is as repugnant to the genius of our institutions, and to the morality of that faith in whose shining foot-prints our legislation strives to follow, as is the scalping-knife of the border savage. As national war is one of those scourges to which every country is exposed, it is fully within the scope of an enlightened public policy to encourage the manufacture of weapons for its efficient prosecution. But private war—the rude and sanguinary conflict of members of the same community with each other—stands upon an entirely different footing. It is everywhere denounced under heavy penalties, so that the blow can only be justified when it has been stricken in self-defence. This plainly-marked distinction determines the character of the weapons whose manufacture can claim the fostering care of the government. There can be no difficulty in deciding to which class the one under consideration belongs. It puts forth no pretension to rank as an instrument of national warfare. In this higher walk of human carnage it would be as lame and impotent as would be an ordinary squirt in the presence of a conflagration. Nor is there any mechanical pursuit in which it could possibly be employed, nor any household or personal want to which it could possibly minister. It is intrinsically, in its inception and consummation and aim, a weapon of ferocious personal conflict, whose function is that of brutal mutilation. To bring it, then, within the range of the principle laid down, it must be shown that, however cruel may be its mode of operation, yet, from its structure, and the manner in which

it will be wielded, its mission upon the arena will be that of self-defence. Can this be done? In the first place, its deceptive form, quieting all apprehension, incites him who wears it to assaults upon others, by securing to him the advantages of a perpetual ambushade. On the other hand, for the same reason, instead of repelling, it tends rather to invite attacks from others, by falsely presenting to them a seemingly unarmed front. When to this is added the consideration that disguise is ever a stratagem of the aggressor, and that he who, in good faith, seeks only his own defence, practices no concealment, we are forced to the conclusion that this policeman's club would be most generally wielded by men of violence and crime, and would play the part rather of the assailant than of the assailed. The fact that it could be used for purposes of defence does not meet the stern exactions of the principles to which I have adverted. In determining the morality and policy of encouraging the fabrication of a weapon, the inquiry is, not what use might be made of it by officers and law-abiding citizens, but to what purpose, in view of its peculiar characteristics, would it most probably and most generally be applied.

The government of almost every civilized people has striven with painful anxiety to repress the habit of wearing concealed weapons. With none of the frankness which distinguishes true courage, it is a usage whose fruits have been evil, and altogether evil, and which has written its own sad history in the blood of some of the purest and noblest men of the times. But, of all concealed weapons, the concealment of this is the most cunning and complete. In its spirit it is not merely unmanly, but skulking; and shocks, by the meanness of its cowardice, not only the chivalry, but the civilization of the age. With an inoffensive form, its polished yet simple exterior seems radiant with the smile of peace, but it is a smile destined to prove but the dagger's gleam before it stabs for all who trust it. No deceit could be more subtle or profound than the crouching of its lurking spear points, which display in the suddenness of their spring the mingled ferocity of the tiger and the treachery of the kiss of Judas. Whether viewed as a weapon of offence or defence, it is adapted to the hands only of the most dissolute and the most dastardly, and evidently belongs to the same class with the slung-shot of the burglar and the brazen knuckle of the political ruffian. The national honor would not be more tarnished by granting a patent for the one than for the other.

Let the application be rejected.

J. HOLT, *Commissioner.*

